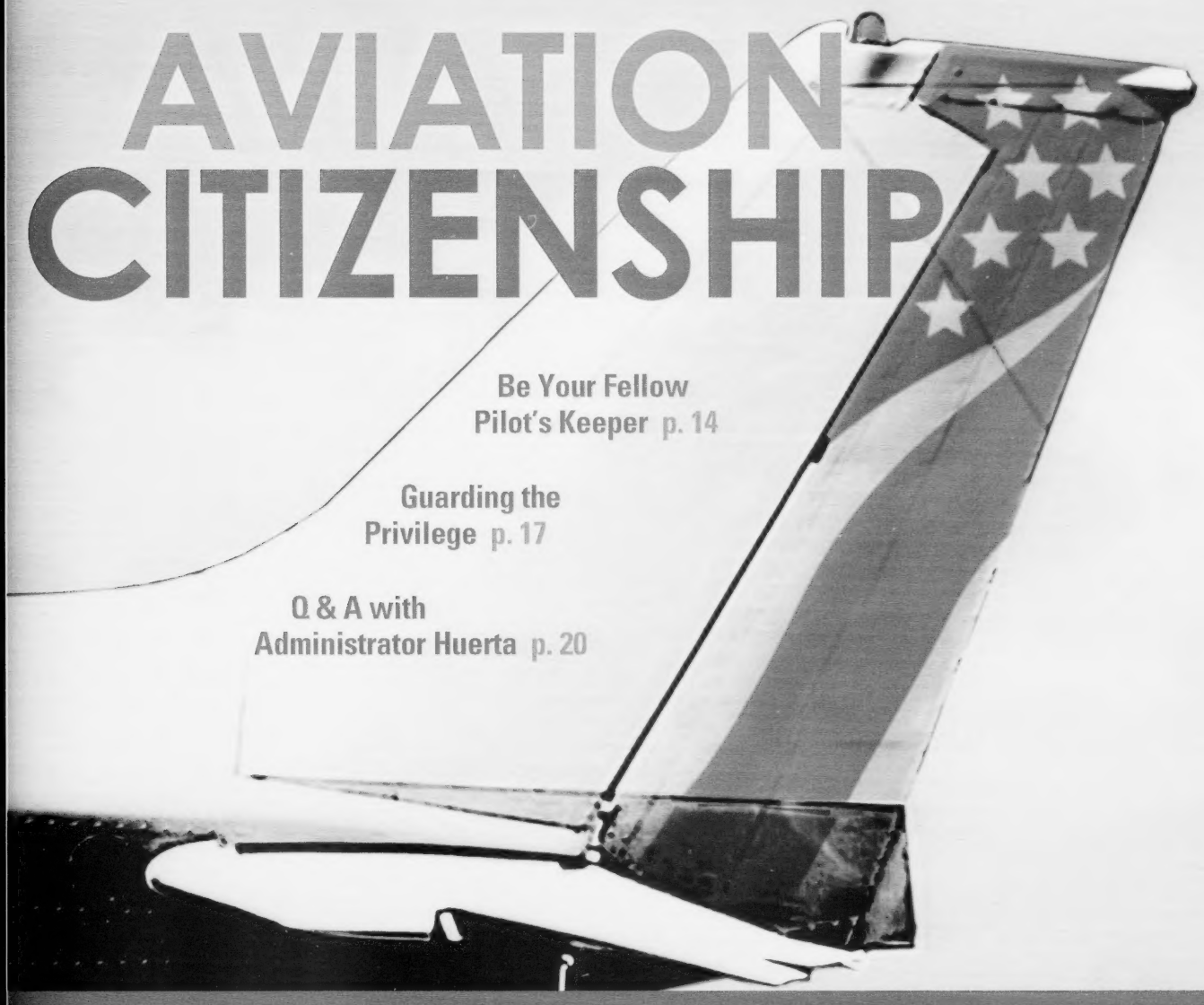
FAA Safety BRIEFING

September/October 2013

Your source for general aviation news and information

AVIATION CITIZENSHIP



Be Your Fellow Pilot's Keeper p. 14

Guarding the Privilege p. 17

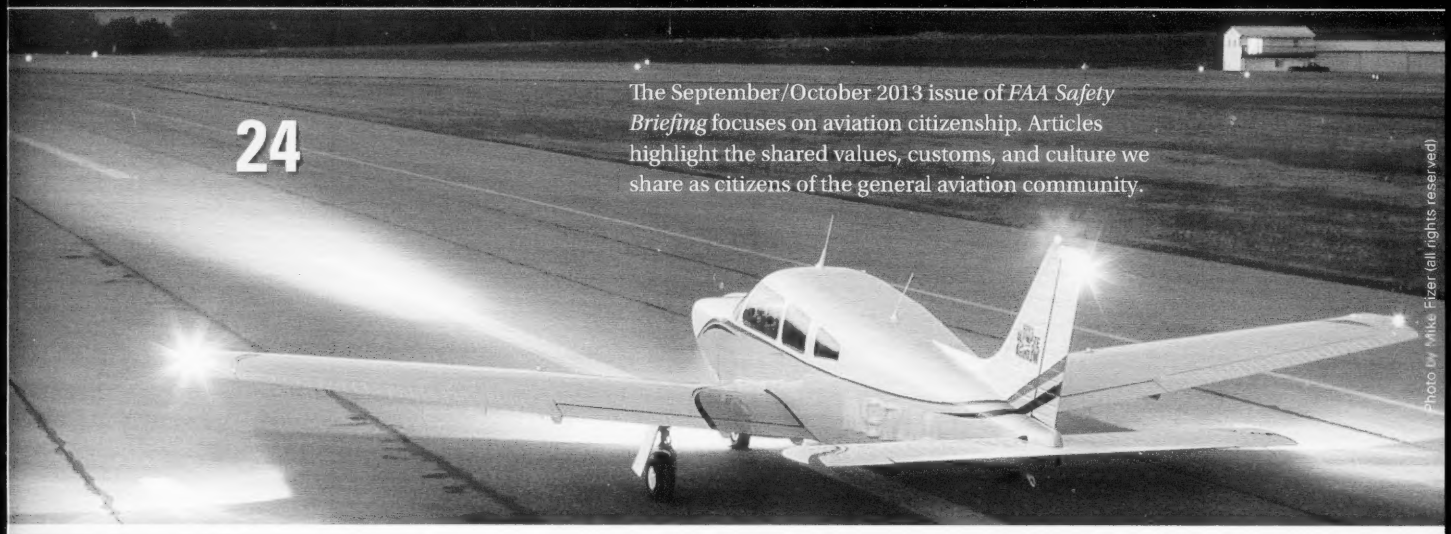
Q & A with Administrator Huerta p. 20

Federal Aviation Administration

faa.gov/news/safety_briefing

@FAASafetyBrief

FAA Safety Briefing is the FAA safety policy voice of non-commercial general aviation.



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The September/October 2013 issue of *FAA Safety Briefing* focuses on aviation citizenship. Articles highlight the shared values, customs, and culture we share as citizens of the general aviation community.

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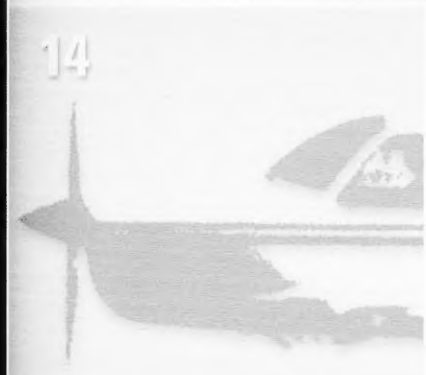

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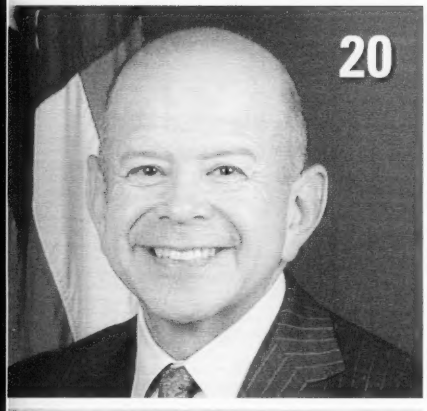

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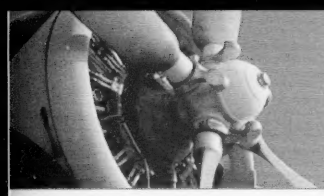

JOHN ALLEN
DIRECTOR, FLIGHT STANDARDS SERVICE

Ambassadors for Aviation

"Every good citizen makes his country's honor his own, and cherishes it not only as precious but as sacred." — Andrew Jackson

I recently traveled overseas to represent the FAA in meetings with my counterparts from several foreign civil aviation authorities. Throughout the trip, I was intensely aware that everything I said or did would reflect not so much on me as an individual, but far more on my country and on the agency I represent. I was also conscious of the old adage that we never get a second chance to make a good first impression.

At a time when there are so many pressures working against those who want to fly for recreation, personal transportation, service to the community, or as the first step toward a career in commercial aviation, each of us needs to apply the same concepts to our role as citizens in the aviation community. We must cherish the precious privileges of aviation citizenship, and we must strive to bring honor to our community.

Culture, Values, and Customs

As with a nation, a community of any kind has a culture and customs that arise from a set of shared values. What would be on your list of aviation values? I hope that safety is at the top of your list. Check out the Aviators Model Code of Conduct (AMCC) (www.secureav.com). Developed by a group of aviation professionals, the AMCC recommends operating practices to enhance the quality and safety of your flight operations. As noted in the introduction:

> *Pilot conduct impacts the entire aviation community, including its safety culture. A code of conduct can help achieve new levels of proficiency. The AMCC is just such a tool, a set of guidelines that is adaptable to each pilot and organizational need. We encourage you to adopt it, and to commit to the highest principles of aviation safety.*

The AMCC's opening section on the "General Responsibilities of Aviators" provides a solid list of behaviors that reflect the values, culture, and customs we should exercise as good aviation citizens. Pilots should:

- make safety the highest priority;
- seek excellence in airmanship;
- recognize and manage risks effectively, and use sound principles of risk management;
- develop and exercise good judgment and sound principles of aeronautical decision-making;
- maintain situational awareness, and adhere to prudent operating practices and personal operating parameters (e.g., minimums);
- aspire to professionalism;
- act with responsibility and courtesy; and
- adhere to applicable laws and regulations.

There is much more excellent material in the AMCC than space permits me to discuss here, so I strongly encourage every aviation citizen to download, read, and heed the guidelines in this document.

Language

My recent travels took me to a country with a different language. Though I am not fluent in that language, I made an effort to use the words and phrases I did know. I did not assume that everyone could speak English. I greatly appreciated anyone who patiently and courteously accepted my hesitant attempts to use the local language, as well as those who made an effort to speak slowly and clearly.

The community of aviation also has a language of its own, one with a long history and a highly specialized vocabulary. As good aviation citizens, we should strive to use that language precisely and correctly when we are operating in the system. On the radio, we should always observe proper etiquette for communication, just as I hope you would do in face-to-face interactions. Listen before you key the mic to transmit. Speak clearly and succinctly. Use proper phraseology. Whether on the radio or speaking to student pilots, potential aviators, or non-flyers, be mindful to speak in a way that achieves the goal of clear communication. Just as in non-aviation situations, adjust words, phrases, and speaking velocity to the audience.

Etiquette

If you were to visit a country whose citizens treat you with discourtesy or disrespect, would you be eager to go back? Of course not. As I mentioned, there are enough pressures already to deter potential aviators without adding discourtesy. Treat everyone you meet — fellow pilots, potential pilots, and non-pilots — with the kind of respect and courtesy that brings honor to our community of aviation citizens.

ATIS AVIATION NEWS ROUNDUP

Is Your Transponder "On?"

You may be accustomed to switching your transponder to standby (STBY) mode while taxiing, but with the changes to the Aeronautical Information Manual (AIM) in 2012, the FAA now recommends you activate your transponder prior to moving at an airport. The FAA updated AIM section 4-1-20, paragraph 3, to read as follows:

> *Civil and military transponders should be turned to the "on" or normal altitude reporting position [ALT] prior to moving on the airport surface to ensure the aircraft is visible to ATC surveillance systems. In all cases, while in controlled airspace each pilot operating an aircraft equipped with an operable ATC transponder maintained in accordance with 14 CFR section 91.413 must operate the transponder, including Mode C if installed, on the appropriate code or as assigned by ATC. In Class G airspace, the transponder should be operating while airborne unless otherwise requested by ATC.*

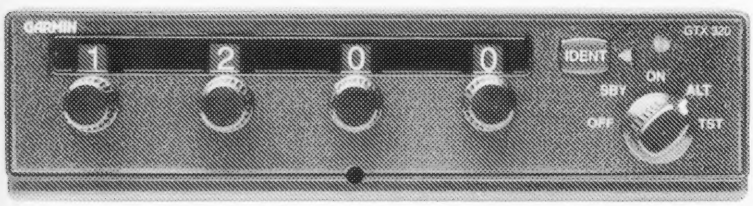

Photo courtesy of Garmin

Also of note is paragraph 7, which states: "Aircraft equipped with ADS–B (1090 ES or UAT) must operate the equipment in the transmit mode (on position) at all times while on any airport surface."

Pilots using aircraft equipped with modern transponders, or those that have transponders integrated with the navigation system, will need to pay extra attention to transponder operations and to what mode is selected. These systems often have automatic features based on airspeed that control the transponder settings. You'll want to override or reconfigure the settings to make sure the transponder is in the "on" or ALT setting while taxiing and not in STBY mode.

To reference transponder operations in the AIM, visit go.usa.gov/bhZJ.

Survey Says . . .

The 35th annual General Aviation and Part 135 Activity Survey (GA Survey) for reporting on calendar year 2012 is closing soon. If you received an invitation to participate, please respond by September 30. The annual survey helps the FAA gather important information on your aviation activity. The survey will enable us to collect accurate data on:

- *all types of aircraft:* rotorcraft, fixed-wing piston, turboprops, turbojets, gliders, hot air balloons, amateur-built, light-sport aircraft, experimental, and non-experimental aircraft.
- *many different aircraft operations,* including part 91, on-demand part 135 (air taxi, air tours, and non-scheduled commuter), and part 137 (agricultural operations).
- *aircraft owned/operated by individuals and by companies* as well as flying clubs, flight schools, fractional ownership programs, and government agencies.

Please be assured that your responses are confidential. The information will be used only for statistical purposes and will not be released in any form that would reveal an individual participant. Tetra Tech is an independent research firm that conducts the GA Survey on behalf of the FAA. If you have questions, feel free to contact them at 800-826-1797 or via email at infoaviationsurvey@tetratech.com.

FAA Rule Boosts Pilot Qualification Standards

In a final rule published this summer, the FAA announced that it is increasing the qualification requirements for first officers who fly for U.S. passenger and cargo airlines.

The rule requires first officers — also known as co-pilots — to hold an Airline Transport Pilot (ATP) certificate, requiring 1,500 hours of total time as a pilot. Previously, first officers were required to have only a commercial pilot certificate, which requires 250 hours of flight time. First officers must now also have an aircraft type rating, which involves additional training and testing specific to the airplanes they fly.

"Safety will be my overriding priority as Secretary, so I am especially pleased to mark my first week by announcing a rule that will help us maintain our unparalleled safety record," said Transportation

Secretary Anthony Foxx. "We owe it to the traveling public to have only the most qualified and best trained pilots."

The rule also calls for a co-pilot to fly a minimum of 1,000 hours in air carrier operations prior to serving as a captain for a U.S. airline, as well as enhanced training requirements for an ATP certificate, including 50 hours of multi-engine flight experience and completion of a new FAA-approved training program.

A "restricted privileges" ATP certificate that will allow a pilot to serve as a first officer would be available to military pilots with 750 hours total time as a pilot; graduates holding a bachelor's degree with an aviation major and 1,000 hours total time as a pilot; graduates holding an associate's degree with an aviation major and 1,250 hours; or pilots who are at least 21 years old with 1,500 flight hours.

The rule is consistent with the mandate in the Airline Safety and Federal Aviation Administration Extension Act of 2010. It also addresses recommendations from an Aviation Rulemaking Committee, the National Transportation Safety Board, and the FAA's Call to Action to improve airline safety.

New DOT Secretary Sworn In

On July 2, 2013, former Charlotte, N.C., mayor Anthony Foxx was sworn in as the 17th U.S. Secretary of Transportation. In a message to Department of Transportation employees, Foxx provided some personal background information and outlined several of his goals for the department.

"As a mayor, I have seen the impact of DOT on the ground — whether it is highways, aviation, rail, transit, or maritime, our citizens and critical industries depend on us every single day to provide safe, efficient, and effective means to move people and goods," he stated. Some of Foxx's accomplishments include extending Charlotte's light rail system and expanding the Charlotte-Douglas International Airport.

"Safety will remain our top priority at DOT," continued Foxx. "At the same time, I will work to improve the efficiency and performance of our current transportation system while building the infrastructure we need for future generations."

To view a video message greeting from Secretary Foxx, visit go.usa.gov/bhwQ. You can also catch messages from Foxx on DOT's *Fast Lane* blog at fastlane.dot.gov or follow him on Twitter @SecretaryFoxx.

Balloon Fiesta Safety Seminars

Are you headed to the Albuquerque Balloon Fiesta this October? If so, you'll want to check out some of the safety seminars the FAA Safety Team (FAASTeam) will be hosting during the nine-day event (Oct. 5-13). Topics will include radio communications, federal aviation regulations, weather, and balloon maintenance and repair. All seminars take place at 11:30 a.m. in the Balloon Explorium in the northeast corner of the Fiesta Field.

"Whether it's exploring your interest in becoming a balloon pilot, or sharpening up your lighter-than-air flying skills, the seminars provide something for everyone," says Albuquerque FAASTeam Program Manager J.D. Huss. According to Huss, the seminars also qualify for WINGS credit and can land you a discount with insurance. For more information on the event, go to www.balloonfiesta.com or www.FAASafety.gov.

Photo by Mario Toscano

AD Issued for Piper PA-46 Family

The FAA has adopted a new Airworthiness Directive (AD) for certain Piper PA-46 airplanes. The AD, which went into effect on July 12, 2013, was prompted by certain fuel vent valves not providing the correct ventilation. If not corrected, this unsafe condition may lead to structural damage of the wings, which could result in loss of control.

The AD affects 1,379 aircraft of U.S. registry and requires owners to comply with specific inspection, modification, and replacement procedures. For more details, visit go.usa.gov/jYUR.

U.S. Department
of Transportation

**Federal Aviation
Administration**

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Anthony R. Foxx *Secretary of Transportation*
Michael P. Huerta *Administrator*
Margaret Gilligan *Associate Administrator for Aviation Safety*
John M. Allen *Director, Flight Standards Service*
James Viola *Manager, General Aviation and Commercial Division*
Susan Parson *Editor*
Tom Hoffmann *Managing Editor*
James R. Williams *Associate Editor / Photo Editor*
Sabrina Woods *Assistant Editor*
Paul Cianciolo *Assistant Editor*
Will Daniel Mudd Simmons *Assistant Copy Editor*
John Mitrione *Art Director*

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Comments or questions should be directed to the staff by:

- Emailing: SafetyBriefing@faa.gov
- Writing: Editor, *FAA Safety Briefing*, Federal Aviation Administration, AFS-805, 800 Independence Avenue, SW, Washington, DC 20591
- Calling: (202) 385-9600
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Smithsonian Digital Archives

Ever get up close to a Vought V-173 "Flying Pancake?" Or how about a 1959 Curtis-Wright X-100 tilt-prop? A Wikipedia search might help get you close, but there's not a whole lot to be said for the accuracy of online encyclopedia sites. However, for several years now, the Smithsonian Institute has been making these aircraft, along with millions of other historical artifacts, photos, and documents, available in its online digital library (http://collections.si.edu/search/). The effort is part of the institution's five-year Digitization Strategic Plan that started in 2010. The plan's goals are to broaden access, improve preservation, and support education with regard to the nearly 139 million objects in the Smithsonian's collection.

In a report that outlines the plan, the Smithsonian plans to digitize not only millions of its objects, but also the research, description, and interpretive information that place them in context and give them greater meaning. The digitization effort also makes available the millions of objects tucked away from sight in storage facilities — everything from journals and personal papers to music, sound, and video. In fact, it's stated that visiting all 19 of the Smithsonian museums would reveal only one percent of the items in the collection, many of which are tied to this nation's rich aviation history.

Many of the items archived will also be available as high-resolution 3-D images, allowing viewers to examine details not possible with traditional museum exhibits — like exploring the flight deck inside the Space Shuttle *Discovery* (go.usa.gov/jkUj).

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NATIONAL AERONAUTIC ASSOCIATION OF U. S. A. INC.

Certificate No. 8...

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IRIS LOUISE McPHETRIDGE

born 12TH day of NOVEMBER 1905 having fulfilled all the conditions required by the Fédération Aéronautique Internationale, for an Aviator Pilot is hereby brevetted as such.

Dated MAY 16 1928

CONTEST COMMITTEE

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Louise McPhetridge

Photo courtesy of the Smithsonian National Air and Space Museum Archives

View of American aviation pioneer Iris Louise McPhetridge Thaden's pilot's license, issued May 16, 1928.

Fast-track Your Medical Certificate

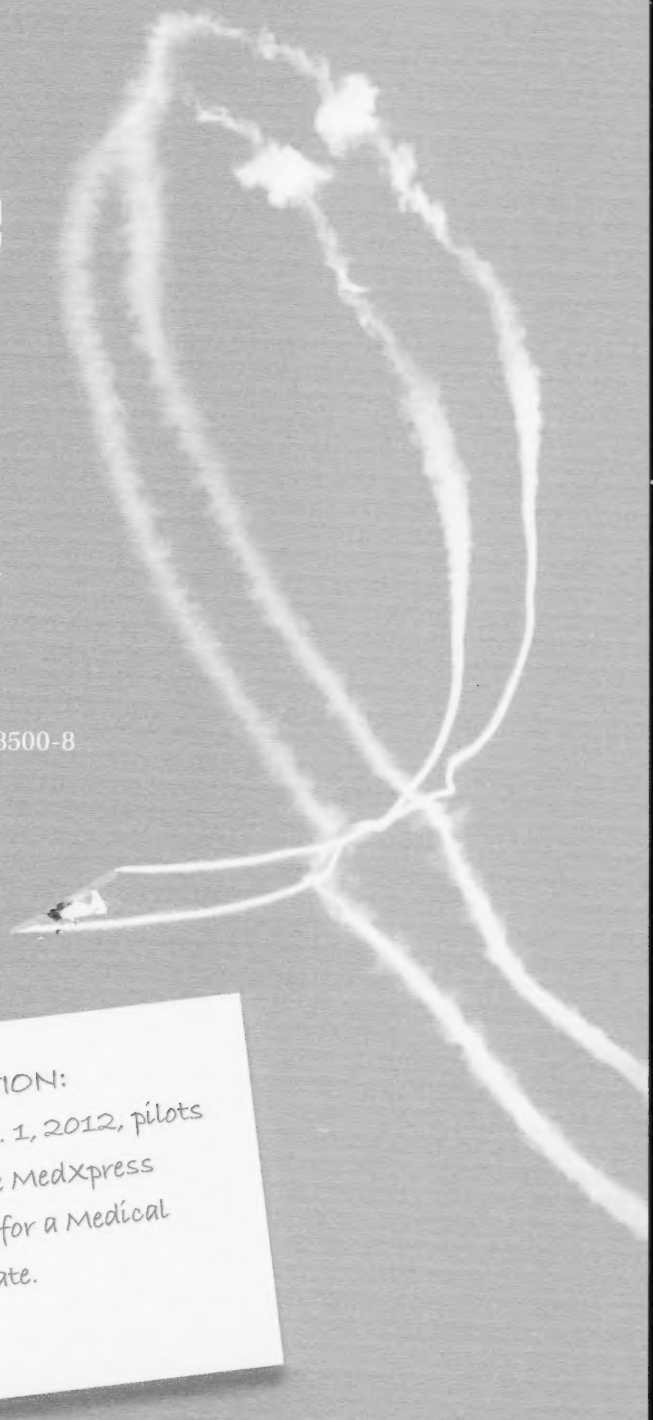
With FAA MedXPress, you can get your medical certificate faster than ever before.

Here's how: Before your appointment with your Aviation Medical Examiner (AME) simply go online to FAA MedXPress at https://medxpress.faa.gov/ and electronically complete FAA Form 8500-8. Information entered into MedXPress will be available to your AME to review prior to and at the time of your medical examination, if you provide a confirmation number.

With this online option you can complete FAA Form 8500-8 in the privacy and comfort of your home and submit it before your appointment.

The service is free and can be found at:

https://medxpress.faa.gov/



PAUL CIANCIOLO

Citizen Engagement

A Look at How FAA Participates through Social Media

Not sure what "the Twitter" is or that "Facebook thing" does? Just like transitioning to a glass cockpit, social media is an upgrade that enhances your experience flying through cyberspace — no pilot certification needed! Anyone who can access the Internet, either from a computer or a mobile device, can see what the FAA is posting to its social media networks. You can catch us on Twitter.com, Facebook.com, or YouTube.com even without a user account on these sites.

To get the most out of social media, though, engagement is the key. That means interacting with those who post content. Even a simple click on "like" shows us what you may want to see more of — anything from tips about a stabilized approach to a video showing the effects of wake turbulence.

Approximately 35,000 people follow the FAA on Facebook, where our page has posts, stories, links, and photos from all around the organization. *FAA Safety Briefing* magazine contributes photo stories geared toward the general aviation community every week. Check out some of the comments from our fans on the next page. Next time you are on Facebook, we hope you share a photo and spread some aviation safety knowledge.

The FAA hosts a YouTube channel where new videos are posted from around the organization. These videos cover topics ranging from aeromedical training to NextGen implementation. Is there something that you would like to see produced? Let us know.

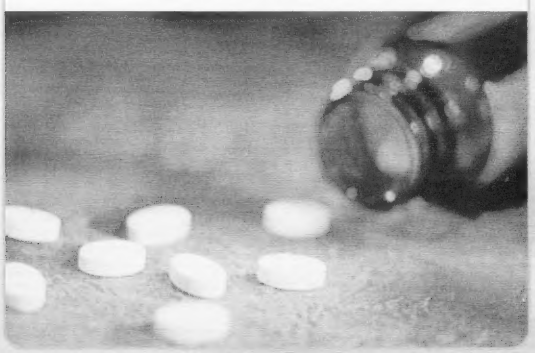
Twitter is a real-time information network that connects you to the latest stories, ideas, opinions and news about what you find interesting. The FAA uses the handle @FAANews to send out small bursts of information in the form of alerts to temporary flight restrictions, press releases, infographics, and other important news. The handle @FAASafetyBrief is your direct link to us, the *FAA Safety Briefing* magazine staff, in the FAA's Aviation Safety organization. You can ask us a question, let us know about a concern, or share a valuable experience with the GA community. Check out some of the tweets from our approximately 16,000 followers on the next page.

Our goal is to improve GA safety by being a good aviation citizen through social media engagement. Join us!

Paul Cianciolo is an assistant editor and the social media lead for FAA Safety Briefing. He is a U.S. Air Force veteran, and a rated aircrew member and search and rescue team leader with the Civil Air Patrol.

Safety Enhancement Topics

September: **Flight After Use of Medications with Sedating Effects**



October: **Safety Benefits of Fuel Management Software**

Please visit www.faa.gov/news/safety_briefing for more information on these and other topics.

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www.YouTube.com/FAANews

"I love being able to pass my knowledge of flying on to future pilots. … Teaching in my opinion is the best way to completely understand all aspects of flying."

— **Commenter on Facebook** about flight instructors having one of the most important roles in aviation, which is to create safe pilots.

"We are so sorry for your loss. Our hearts and prayers are with everyone touched by the tornado."

— **@CAC747 on Twitter** in response to the loss of a member from FAA's Civil Aviation Registry team after a tornado devastated Moore, Okla.

"U bet I did! And, as an instructor I encourage my students to participate too."

— **Commenter on Facebook** in support of the FAA WINGS pilot proficiency program.

"@FAASafetyBrief I'll be licensed to fly in August and already have some trips planned out with some friends :)"

— **@Pilot227 on Twitter** shares in the excitement of planning to earn his wings over the summer.

"WAAS rocks and we have the FAA to thank for having the foresight to design and build the infrastructure that makes these valuable approaches available. …"

— **Commenter on Facebook** after learning about LPV approaches.

"Main reason for the 'disease' is due to ignorance and lack of correct guidance to our students regarding ADM (Aeronautical Decision Making)."

— **Commenter on Facebook** about "get-home-it is," which is when the desire to get to a destination overrides logic and sound decision-making.

"Some great info for pilots @FAASafetyBrief. And my big, fat head is on the Jan/Feb back cover"

— **@DaveCoulier on Twitter** after being featured on the back cover of this magazine.

"In light of @FAASafetyBrief's stabilized approach tweets, this accident shows what can go wrong when unstabilized."

— **@GA_Safety on Twitter** shares an NTSB report link.

"Well, bottom line is I'm responsible for my passengers and crew. If I can't get over it, or around, then I'm waiting on it to pass ... cause when it's all said and done I'm still the PIC and it's my call."

— **Commenter on Facebook** in response to a question about the urge to push on despite the data telling you it's the wrong decision.

"We need more pics of #Solo shirt tails hanging/displayed proudly, Power & #Glider! PS: Wet cotton cuts easier"

— **@SoaringSociety on Twitter** after sharing some post-solo photos.

FREDERICK E. TILTON, M.D.
FEDERAL AIR SURGEON

Aeromedical Advisory

Certain Conditions Now Exempt from Special Issuance

The approximately 600,000 pilots in the United States generate close to 400,000 medical applications each year. And 10 percent of those applications are deferred to FAA for further review.

A few years ago, we introduced the aviation medical examiner (AME) assisted special issuance process, which permits AMEs to issue airman a special issuance certificate at the time of examination, provided the applicant has complied with a defined set of conditions. This process eliminated the wait time for a subset of airmen, but it still left a large number of pilots who had to wait for the FAA to make a decision on their case.

To address this, I am happy to announce that we have identified 18 medical conditions that careful analysis has determined are safe to release from requiring a special issuance. Fortunately, these newly absolved conditions account for 10-15 percent of all special issuances. A word of caution, however; although these conditions no longer require a special issuance, they will still need to be reported to your AME.

I am very excited about these changes, and I hope you are as well. They will make the medical examination process easier for you, and it will help us to reduce the time that other airmen with more complicated medical conditions must wait for their special issuance to be processed.

In the coming months, we will continue to refine the special issuance list and work to find other ways to enhance our certification process. You can find the worksheet for each of the exempted medical conditions by searching for that specific condition in the AME Guide. The treating physician must find the condition stable, and the AME will use the worksheet to check for specifics. For example, applicants with hypothyroidism must not show signs of fatigue, mental status impairment, or symptoms related to pulmonary, cardiac, or visual systems, and they must be able to provide a normal thyroid stimulating hormone (TSH) reading within 90 days of the exam.

The current Guide for Aviation Medical Examiners is available online at http://1.usa.gov/187odaU. The list shown here is current as of July.

Frederick Tilton, M.D., M.P.H., received both an M.S. and an M.D. degree from the University of New Mexico and an M.P.H. from the University of Texas. During a 26-year career with the U.S. Air Force, Tilton logged more than 4,000 hours as a command pilot and senior flight surgeon flying a variety of aircraft. He currently flies the Cessna Citation 560 XL.

Recently Exempted Medical Conditions

The AME must review a current status report by the treating physician and any supporting documents to determine the applicant's eligibility for certification. If the applicant meets all the acceptable certification criteria listed in the AME Guide's worksheet for the specific condition, the AME can issue. Applicants for first- or second- class must provide this information annually; applicants for third-class must provide the information with each required exam (Does not apply to *).

- Arthritis
- Asthma
- Hepatitis C
- Hypertension
- Hypothyroidism
- Migraine & Chronic Headaches
- Pre-Diabetes
- Prostate Cancer *
- Renal Cancer
- Testicular Cancer *

Soon to Be Exempted Medical Conditions

- *Bladder Cancer*
- *Carotid Artery Stenosis*
- *Colitis & Irritable Bowel Syndrome*
- *Colon Cancer*
- *Hodgkin's Disease*
- *Kidney Stones*
- *Leukemia*
- *Lymphoma*

Ask Medical Certification

COURTNEY SCOTT, D.O.
MANAGER, AEROSPACE MEDICAL
CERTIFICATION DIVISION

Q1. I believe I am suffering from either presbyopia or astigmatism because I'm not seeing clearly — I still have slightly blurry or fuzzy vision even with my glasses on. I am a high school graduate and will be looking for a flight school to attend soon. How will this affect my eligibility to fly?

A1. Vision is obviously very important for safe flight. The FAA does have slightly different requirements for different classes of medical certificates. For a commercial certificate, pilots must correct to 20/20 vision in each eye. If it is your goal to be a commercial pilot, you should work very hard with your eye care specialist to get your vision corrected to 20/20. If your interest is in general aviation only, the requirements are a little less stringent. You must be able to correct to 20/40 in this circumstance.

Q2. I badly burned my left hand and now have some residual scar tissue that I will be seeking plastic surgery (skin graft) to rectify. Will this affect my medical status at all? If so, how?

A2. The requirements for medical certification do require that you have good use of your extremities, including fine control of motor movement. It is possible your injury will interfere with this requirement. Your Aviation Medical Examiner (AME) should go over this with you. If you have good range of motion and appropriate use of your hand and digits, your condition will not be a problem and the AME will be able to certify you without further evaluation. If there are some problems, the FAA will want to see a good report from your treating physician that details your abilities and difficulties, and the FAA will become involved in the decision process.

Q3. My 15-year-old son dreams of becoming a professional pilot (ATP). A few months ago, a routine medical exam showed a mitral valve prolapse. He has no symptoms and is not on any medication. He is also very active physically. Is this something that will definitely result in a denial of a medical certificate?

A3. Mitral valve prolapse is a fairly common medical condition. Whether or not it interferes with flying safety depends on how severe it is. When your son applies for his medical certificate, the FAA will want to see a cardiovascular evaluation from his treating physician. We may or may not require further testing, depending on what we find in the evaluation. While I cannot guarantee that your son will be able to qualify, I can tell you that most people with this condition do qualify for a medical certificate.

Send your questions to SafetyBriefing@faa.gov. We'll forward them to the Aerospace Medical Certification Division without your name and publish the answer in an upcoming issue.

Courtney Scott is the manager of the Aerospace Medical Certification Division in Oklahoma City, Ok. He is board certified in aerospace medicine and has extensive practice experience in civilian, and both military and non-military government settings.

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SUSAN PARSON

To Be *Rather Than* To Seem

How A Personal SMS Can Make and Mark You as A Good Aviation Citizen

There is much more to being a patriot and a citizen than reciting the pledge or raising a flag.
— James George Janos (aka Jesse Ventura)

Whether referring to participation in a nation or in a community of shared interests, good citizenship is one of those terms that we all use commonly, enthusiastically, and knowingly. But do we really know what it means to be a good citizen? And, for the purposes of this topic, how many of us truly understand what it means to be a good aviation citizen?

Photo by Tom Hoffmann

Esse Quam Videri

As I pondered these questions, the phrase *esse quam videri* came to mind. That is the official motto of my native state and, as every North Carolina school child of my generation learned, the Latin phrase translates as "to be, rather than to seem."

Applied to aviation, there are various ways that someone can *seem* to be a good pilot, and thus a good citizen of the aviation community. Unfortunately, some of those most visible characteristics may be more about "seem" than "be." For example, it's easy to assume that an individual who has never had an accident, incident, or violation must be a good pilot. While that may seem to be the case, a spotless record could be the result of good fortune rather than good behavior.

So back to the question: how can any individual pilot truly be (rather than merely *seem* to be) a good pilot and a good citizen of the aviation community?

My Southern upbringing offered a few more pointers in this particular quest. For instance, I can remember many times as a tot when, dressed up in a lacy little frock for church or some other public outing, the parental pre-departure briefing included the admonition that "pretty is as pretty does." There were also lots of reminders that actions speak louder than words — a concept that was embedded even more deeply during my training for the flight instructor certificate. The basic idea is that "being" arises from "doing."

In the process of researching concepts of good citizenship, I came across a range of research writing and pithy quotes that support the connection between "being" and "doing." Of particular interest in the academic arena is a set of characteristics suggested by Dr. Joel Westheimer, a professor in the sociology of education. In Westheimer's construct, a good citizen is one who not only values, but also *demonstrates* traits such as personal responsibility (e.g., practicing and modeling good values) and concern for the collective welfare (e.g., through active participation and contributions to the overall community). I also came across a couple of interesting quotes that deftly summarize this idea:

> *As a citizen, you need to know how to be a part of it, how to express yourself — and not just by voting.* — Sandra Day O'Connor

Now let's apply the "do" in order to "be" concept to good aviation citizenship. Each of us could probably come up with a long list of DO and DON'T actions that are consistent with safety and good airmanship. Any such list would no doubt include actions that involve personal responsibility and accountability, concern for the community, and behaviors consistent with safety and risk management.

Although I considered creating a top ten list of my own, it dawned on me that most, if not all, the items I might suggest are fully consistent with the four pillars of the Safety Management System (SMS) approach that the FAA, the international community, aviation operators, and many other industries have embraced as the best and most effective way to achieve acceptable levels of safety risk. Although many GA pilots (including me) sometimes perceive SMS as either an abstraction or a structure for the big operators, one of the much-lauded benefits of SMS is its scalability. So, in lieu of a list, let me offer an outline for how creating a simple personal SMS can frame both the conceptual and the participatory elements that can accelerate the essential evolution from *seeming* to *doing* to truly *being* a safe pilot and a good aviation citizen.

There are many ways that someone can seem to be a good pilot and a good citizen of the aviation community, but some of those most visible characteristics may be more about "seem" than "be."

Safety Policy – Defining Your Aviation Values

I can't think of a better starting point for this part of your personal SMS than the Aviators Model Code of Conduct (AMCC). Right from the start, this document (available *gratis* from www.secureav.com) lists the values we should display in our role as good aviation citizens. Among other things, it suggests that a pilot's safety policy should make safety the highest priority, seek excellence in airmanship, aspire to professionalism, adhere to laws and regulations, and act with responsibility and courtesy to others. The values enumerated in the Aviators Model Code of Conduct also highlight the importance of situational awareness, risk management, and "prudent operating practices" such as personal minimums.

Safety Risk Management – Setting Your Personal Minimums

Clearly defined, individually tailored, written personal minimums should be part of a good aviation citizen's individual SMS. I think of personal minimums as the human factors equivalent of the regulatory requirement for fuel reserves, because they define the safety reserve between the skills and

The four fundamental components of a Safety Management System (SMS)

aircraft performance required for the specific flight you want to make, and the skills and aircraft performance available.

There are numerous tools available to help guide you through the process of setting personal minimums, and longtime readers may recall a step-by-step guide published in the May/June 2006 issue of this magazine ("Getting the Maximum from Personal Minimums" — *FAA Aviation News*). Regardless of the tool you choose, the key is for your individual SMS safety policy to include personal minimums tailored to your individual training, experience, currency, and proficiency, and consistent with the characteristics and capabilities of the aircraft.

Written personal minimums are very helpful when it comes to a good aviation citizen's personal responsibility of adhering to stated values, and to demonstrating — *modeling* — that commitment to the broader community. Predetermined and explicitly stated metrics for go/no-go and continue/divert decisions in aviation are a hallmark of good aviation citizenship, because they provide the practical tools you need for meaningful management of the risk. For operation in instrument meteorological conditions (IMC), for instance, you might have personal minimums that say you will not operate in conditions defined as low IFR. Or, you might defer to another day if thick haze significantly reduces visibility, or if the strength of a gusty crosswind is more than you can handle without a white-knuckled grip on the flight controls.

Good safety risk management means that you adhere to your pre-established safety policy if conditions exceed the stated limitations. You negate the safety risk management value if you amend your personal safety policy "on the fly" in order to make a specific trip. In part for that reason, I encourage pilots to share the written personal minimums with potential passengers. In addition to helping non-pilots understand why a delay or diversion might be necessary, the pilot's personal accountability increases when passengers can ask whether conditions and circumstances for the trip are consistent with the predetermined limitations.

Safety Assurance – Updating Your Operating Policies

That said, you do need a sound safety assurance process to manage the prompt and appropriate incorporation of changes to your circumstances. Do you have a new certificate or rating? You naturally want

to use it, and the training and checking required to earn it make your knowledge and skill as fresh and sharp as they may ever be. Alternatively, has it been awhile since your last flight or, for IMC, since your last instrument approach? Is the airplane you normally fly unavailable for the trip you want to make? If so, are you comfortable — and safe — to fly an aircraft with different equipment or performance characteristics? These are just a few of the factors and questions that go into deciding when, how, and to what extent personal minimums should change. I always recommend that changes be well considered and easily explained and justified to family, other potential passengers, and fellow pilots. For example, you might be comfortable and accustomed to flying with visibility of five miles in haze. There are no unusual factors or pressures on the flight, so it may be reasonable to accept the risk of flying with three miles in haze (i.e., marginal VFR).

When it comes to updating your personal operating policies and limitations, you might also consider discussing such changes with a flight instructor who is familiar with your skills, your experience, and your aircraft. Better yet, "test" your proposed updated operating policies with that instructor in the right seat.

Finally, safety assurance in your personal SMS means that your personal minimums and other operating policies should be subject to regular review. The flight review is a good opportunity for this process. Ideally, though, find a way to review your safety policy and risk management practices at least once a year.

Safety Promotion – Contributing to the Community

Remembering that actions do speak louder than words, modeling safety-minded behavior on every flight is one of the most valuable safety promotion contributions you can make to the aviation community. In addition to adhering to your established practices, here are a few other safety promotion things you can do to be a good aviation citizen:

- *Continuing education and training:* A good pilot never stops learning. Today's technology offers an abundance of new learning opportunities. These include online courses by the FAASafety Team, the AOPA Air Safety Institute, and, for homebuilders, access to the expertise of more experienced builders. Technology has also enabled the availability of interesting and innovative simulation.
- *Mentoring:* Almost everyone can benefit from a good aviation mentor. If you have particular skills or experience, why not offer to share that with a pilot who can benefit from it? It's also a great way to demonstrate and model your safety values as a good aviation citizen.
- *Contribute to the ASRS:* Most pilots know about the Aviation Safety Reporting System (ASRS), colloquially known as "NASA forms" because NASA administers the system on behalf of the FAA. Too many pilots think of ASRS only in terms of its sanctions-relief benefit in the event of an enforcement action. While this benefit provides a strong incentive for pilots to contribute to the system, the point of ASRS is to contribute to a safety culture by collecting, analyzing, and sharing information on issues and events affecting safety. Online submission makes the ASRS system easier than ever to use, and speaking up when you see a safety concern is definitely part of good aviation citizenship.

A simple personal SMS can frame both the conceptual and the participatory elements that drive the evolution from *seeming* to *doing* to truly *being* a safe pilot and a good aviation citizen.

As Flight Standards Service director John Allen observes in this issue's Jumpseat department, there are enormous pressures on aviation today. To defend both the honor and promote the very survival of our community, aviation needs each and every one of us to be not just good pilots, but good aviation patriots and citizens. We are counting on you to do your part.

Susan Parson (susan.parson@faa.gov, or @avi8rix for Twitter fans) is editor of FAA Safety Briefing. She is an active general aviation pilot and flight instructor.

Learn More

Aviators Model Code of Conduct
www.secureav.com

"Getting the Maximum from Personal Minimums"
FAA Aviation News, May/June 2006

Best Practices for Mentoring in Flight Instruction
www.faa.gov/training_testing/training/media/mentoring_best_practices.pdf

Aviation Safety Reporting System (ASRS)
http://asrs.arc.nasa.gov/

JASON BLAIR

Be Your Fellow Pilots' Keeper

How to Develop Safety Intervention Strategies

We discuss safety regularly in the aviation industry. We promote safer operations, discuss previous accidents, and help pilots make self-evaluative decisions intended to make them safer pilots. But what is our communal role? Do we as pilots have a greater responsibility to intervene when we see a fellow pilot about to do something that might affect safety?

A Cause to Pause

Not long ago I sat in a meeting of senior aviation leaders and one of them asked the question, "How many of you have known a pilot who died in a general aviation aircraft?" About half of those in the room raised their hands. He followed with, "How many of you know a general aviation pilot who you think will kill himself in an aircraft?" Every hand went up.

This result gave me pause and I sincerely hope you had a similar reaction. If we all know a pilot who is likely to kill himself in a general aviation aircraft, what can we do to stop it?

If you think the answer is "nothing," then let's change the scenario. Imagine you are a bartender. The patron at the end of the bar who has had a few too many drinks tonight picks up his keys and heads to the parking lot to drive home. Do you stop him? Most of us — all of us, I hope — would not hesitate to say yes, because we all know too much about the dangers of drinking and driving.

Now let's consider some comparable aviation scenarios:

- Imagine that you are an FBO owner. Standing before you is a 250-hour pilot who hasn't flown in more than two months. He wants to rent your Cirrus on a day when the ceiling is 500 feet overcast and the surface temperature is 34 degrees Fahrenheit. Would you agree that handing over the keys is tantamount to letting a drunk driver get behind the wheel?
- What if you see your hangar neighbor rapidly preparing the plane to depart just ahead of a major squall line of thunderstorms? Would you say something, or let him go? What if he tells you he knows he can get ahead of the storm, but you know better?

How far would you go to stop him? Physical restraint? Calling the FAA? What is our role in the oversight of a fellow pilot's decision to fly in weather conditions when we have questions about his or

her ability to handle them? If we see someone going flying in an aircraft under conditions that have a crosswind component greater than we think they should fly in, do we confront them? When weather minimums are below the prescribed approach minimums for the airport, if icing potential exists, or if there are other hazards, what should we do? What if we overhear that the pilot is going to take the aircraft to an airport with a runway shorter than we think the individual's skills can handle? Where does the line get drawn, or does it get drawn at all?

You probably agree, at least in principle, that almost anything is better than letting a fellow aviator die. As is regularly demonstrated on the *What Would You Do?* television show, though, we are all conditioned by culture to live and let live — to mind our own business. I would argue, however, that those of us who are pilots — and especially those who have instructor qualifications — have a duty to overcome such inhibitions when we see a fellow pilot taking a course of action likely to endanger someone's life. We are a community, and we need to help each other.

While it is correct that pilots should be able to make their own decisions for flight safety, it doesn't mean that they can't seek help from others. The key is to remember that to some extent, we are all student pilots who have more to learn, often from one another. So let's look at some concepts that could help you frame the conversations — or safety interventions — you might have in your role as your fellow pilots' keeper.

Going Above and Beyond

I can't think of any FBO whose aircraft rental agreement doesn't include operational guidelines and limitations. There may not be formal guidelines and limitations for the use of privately-owned aircraft, but there's no reason that you can't suggest the development of a "rental" agreement with appropriately conservative provisions. If you need a model document to serve as the baseline, get one from the nearest FBO. Or, go online to find a sample, since most of today's FBOs make rental agreements available online.

Now consider the pilot checkout. There can be a real difference between "current" by FAA minimums, and being "proficient" or "experienced enough" to fly in some conditions. Many times the lines between these considerations are very subjective and vary widely between individuals. Most FBOs therefore have minimum requirements for pilot qualifications (e.g., certificates and ratings), experience (e.g., flight time), and currency (e.g., time acquired in the last 90 days). FBOs, flight schools, and collegiate or academy flight programs all have specific guidelines to help determine whether the customer is qualified and current for the flight operation he or she proposes to make. In

We are all conditioned to mind our own business. I would argue, however, that pilots have a duty to overcome such inhibitions when we see a fellow pilot taking a course of action likely to endanger someone's life

Photo by Adrian Eichhorn

Photo by James Williams

turn, these guidelines give the FBO or school a solid basis to intervene when a customer proposes to take an aircraft into conditions that he or she may not be trained for, proficient in, or safe enough to handle.

Crucial Conversations

How do these practices apply to you as an individual pilot or instructor who sees an owner/operator navigating into conditions that may be beyond their skills or their aircraft's capability? Written personal minimums for aircraft operation and pilot qualification and currency correspond to FBO rental and checkout agreements. You might therefore start the conversation by asking a pilot in peril — someone about to embark on a poor aeronautical decision — how the proposed flight aligns with his or her personal minimums. Even a blank stare provides an opportunity for a safety intervention that might save lives.

As good aviation citizens, we need to engage — courteously, but actively — with fellow pilots about risky flight operations.

An important point to make is that it isn't just about what is "legal" in terms of the CFRs, or what "meets the minimum" for insurance purposes. As good aviation citizens, we need to think about what is safe. We need to engage — courteously, but actively — fellow pilots about risky flight operations.

Let me close with a story that helped shape my views on this topic. I vividly recall a soggy, low-overcast winter day when I owned an FBO. We had a customer who wanted to use one of our aircraft. It was a day that experienced pilots recognized as having a strong likelihood of icing. One of our instructors happened to be at the airport when the customer arrived. The instructor talked with the would-be renter and declined to dispatch the aircraft due to the adverse weather conditions. At another airport nearby, there wasn't an instructor or other pilot willing to say no to a different renter. Our customer was unhappy, but alive to fly another day. Do I have to tell you what happened to the other FBO's customer?

It's not easy to overcome our ingrained "mind your own business" approach, but when it comes to aviation safety and to cutting the appalling GA accident rate, I think it is essential. As a community, and as individual pilots and instructors, safety demands that we change our mindset to one of courteous, proactive concern for the welfare of our fellow aviators. I hope we can come to the day when we can have these discussions with each other, welcome others to question us, and be willing to question others.

One thing is for certain. Never again do I want to sit at an airport, watch a plane fly off to the horizon and think that's probably the last time I will see that person alive. I am my fellow pilots' keeper — and so are you.

Jason Blair is an active FAA Designated Pilot Examiner, CFI, and consultant on aviation training and regulatory efforts.

BRUCE MAYES

GUARDING *the* PRIVILEGE

Understanding the Responsibilities of Good Aviation Citizenship

Photo by Adrian Eichhorn

Every student pilot who gets through the lectures on lift and drag, the permutations of weather, or "buttonology" for new-age avionics, knows the struggles of completing basic ground school. Mastering the knowledge required to successfully pass the written (knowledge) exam for a pilot certificate or rating is a huge undertaking. Even if you accept the old adage that "every point over 70 on the test is overkill," there is still a lot of studying required to get that passing grade.

When combined with the bookwork, the many steep learning curves and performance plateaus the student pilot experiences are sufficient to weed out those who lack the genuine desire to become a pilot. Achieving this status is not taken lightly by those in the midst of the learning cycle. The tradition of cutting off one's shirt tail after a first solo flight illustrates the intensity of the learn-to-fly experience.

Privileges and Responsibilities

Once the much-coveted document is in hand, pilots are free to exercise the privileges of that certificate or rating. What we need to understand is that, as with citizenship in a country, the privileges that come with admission to the world of aviation carry responsibilities. Abuse of those privileges can result in losing them. Medical issues aside, the most common way to lose piloting privileges involves some version of "stupid pilot tricks." Why would a pilot who has invested so much time, money, and energy to earn a certificate or rating blow it all with one foolish act? I don't have a satisfactory answer to that question, but I have plenty of examples of the mindset that gives rise to poor aviation citizenship:

Each individual with a pilot certificate has been given the trust and responsibility to operate an aircraft, and to carry passengers.

If the aircraft is over gross weight but lands safely and no one else knows, what's the harm? Besides, that aircraft will easily haul twice its gross weight.

The only thing that matters is for the paperwork to match the regs, right?

I need to make the flight, so I am going to fly regardless of the regs or legal limits.

I can't believe you won't take off into fog. It can't be more than 1,000 feet thick.

If you take off and fly into IMC, is it safer to just keep flying IFR until they give you a clearance? Just make sure they don't know you are in IMC.

You turned around because of weather?! What about that "No Fear" bumper sticker on your car?

We might as well make up the weights; how will anyone know otherwise? Besides, a real pilot can look at the passengers and know if they will make the aircraft overweight.

It does not matter unless there is an accident; and we have never had an accident.

Have you ever found yourself saying — or even thinking — any of these phrases? Let's look at a few "stupid pilot tricks."

Exhibit A

I was an Army helicopter pilot when I joined the aero club in order to attain fixed-wing ratings. We did most of our training in a Cessna 172 *Skyhawk*, but, to earn a commercial certificate I needed to demonstrate proficiency in a complex aircraft (retractable gear and controllable pitch propeller). One day, the instructor and I were flying in the club's Cessna 177 *Cardinal*. I guess he got bored, because at one point in the flight he uttered those immortal words: "I've got it, watch this!" (Yes, he actually said that.) He nosed the aircraft over into a dive, pulled it up, and rolled the airplane to the left completely upside down and upright again. I looked outside and noticed that the sturdy wing struts common to all C-172s were not part of the *Cardinal's* anatomy. The airworthiness certificate stated that the C-177 was a normal category airworthiness certificate — not utility category. I angrily protested, and we returned to base. This instructor's blatant disregard for aircraft and flight limitations and total disrespect for his student provided my earliest introduction to "stupid pilot tricks."

Exhibit B

Consider the story of a pilot who deliberately used his privileges to achieve a selfish personal goal, even though it put lives in danger. The short version: the glider pilot soared to 49,009 feet over the southern California desert, clearly violating airspace used by jetliners. The FAA sought to revoke the individual's pilot certificate. The pilot expressed not contrition, but bitterness. He stated that revocation was unjustified because the desert airspace is far less crowded.

Exhibit C

This example is a sad illustration of arrogance and deceit that not only endangers lives, but also gives pilots a bad name in the eyes of the non-flying public. The pilot, whose flight privileges were revoked after he buzzed the Santa Monica Pier in 2008, lost his pilot's certificate a second time for illegally selling rides to the public in a Soviet-era military jet. The FAA discovered this fact as a result of an accident that killed another pilot and a passenger who had purchased a ride in a two-seat military jet trainer. The first pilot, who was carrying an illegal passenger in his own military jet aircraft, was flying next to the jet that crashed. Care to count how many regulations he violated?

Exhibit D

I am always astonished by stories of professional pilots caught trying to fly while drunk. One of the most famous examples in this category is the airline crew who told their fellow bar patrons that they had to fly an airliner the next day. Or how about the regional airline captain busted in the cockpit for "intent to fly" with a blood alcohol content twice the legal limit?

These and other practitioners of stupid pilot tricks all lost their privileges to fly. In my book, loss of piloting privileges is a price that a pilot must pay for breaches of faith and trust with passengers, poor judgment, and serious deficiencies in aviation citizenship.

Is There an Antidote?

Unfortunately, we do not have a reliable filter to weed out the proverbial "bad apples" before they kill or injure others. We rely on individual responsibility. We also rely on a higher standard culture because regardless of aircraft size, each individual with a pilot certificate has been given the trust and responsibility to operate an aircraft, and to carry passengers.

If you follow the policies, procedures, and rules, and if you do so with the knowledge and skill required to be a good pilot and a solid aviation citizen, you will most certainly be safer. Guard your privileges through your own behavior, and never let company or peer pressure force you into acting in a way contrary to those principles. Guard them as if your future depends on it, because your flying future — and maybe your life — does.

The privileges that come with admission to the world of aviation also carry responsibilities.

Bruce Mayes is the president of Vintage Aviation LLC, a comprehensive aviation consulting firm. He is also an active professional pilot with 40 years and 21,000 flight hours of experience in the aviation industry.

Photo by James Williams

TOM HOFFMANN and SABRINA WOODS

A Heading *Set for* Success

Putting A Safety Vision Into Action

Since being sworn in as the 17th FAA Administrator January 9, 2013, Michael Huerta has hardly had a chance to catch his breath. Juggling everything from budget sequestration to the aftermath of Superstorm Sandy and the Midwest tornados, and keeping the NextGen program on a tight schedule, Administrator Huerta has hit the runway running.

In a statement on the Department of Transportation's blog *Fast Lane* (fastlane.dot.gov), former Secretary of Transportation Ray LaHood recognized Huerta's tremendous work ethic and his ability to employ "tenacity, skill, and diplomacy" with the challenges he faced as acting administrator, and affirmed his confidence in Huerta's abilities to ensure a stronger future for the FAA.

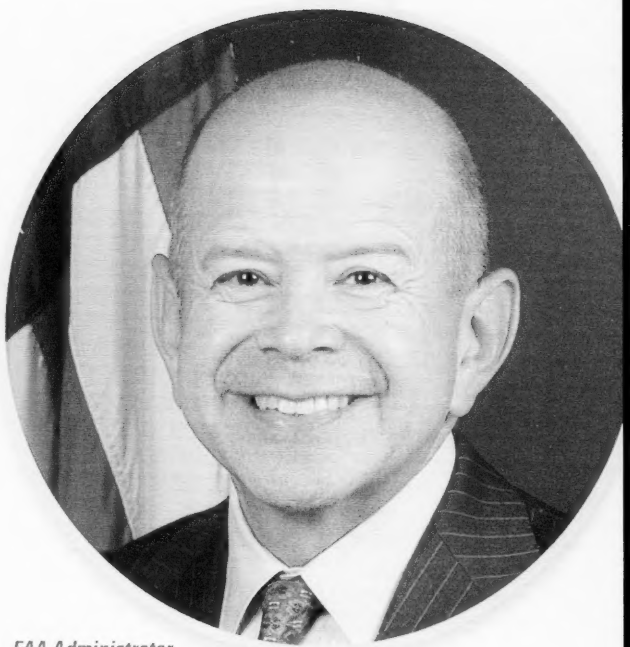
We have to look out for each other — we are all part of the same aviation community. That's what citizenship is fundamentally all about.

In early June, *FAA Safety Briefing* had a chance to sit down with Administrator Huerta and ask him a few questions about his first few months in office as well as his vision for improving and promoting general aviation safety. In keeping with the theme of this issue, we also asked about the importance of aviation citizenship.

Good citizenship typically involves the proverbial "little things" people do. With that in mind, what are some things GA pilots can do to be good aviation citizens?

First, as pilots, you need to know you are part of an entire system and that what you do can affect everyone around you. You have a responsibility to remain completely aware of what's going on in that system. That means ensuring the fitness of your aircraft, yourself, and the environment, and recognizing risks to that fitness.

Keep in mind, too, that safety is not as obvious to some as it is to others — it may be paramount in your thinking, but what about the other guy? Everyone must learn to act in a way that will not in any way compromise the safety of others. We must constantly be thinking of new ways to get the point across to each other, and we cannot afford to plateau. After all, the system is only as good as its weakest link.



FAA Administrator Michael P. Huerta

What's FAA's role in being a good aviation citizen for GA?

Well, we're not always warmly welcomed as the "regulator," but everyone has to recognize there are rules we must use to provide reliability and to facilitate a way for getting a pilot from point A to point B in a safe and efficient manner. We are also an operator of the system — an entity that is not a "you" system, or a private system. Rather, our aviation system is a shared responsibility, one we must continually work together to strengthen and improve.

How would you describe the connection between good aviation citizenship and safety?

We have to recognize that we need to look out for each other — we are all part of the same aviation community. That's what citizenship is fundamentally all about. However, it's also about the responsibility to contribute your best thoughts and efforts toward making things better. Ask yourself, do I see something that appears to be a risk, an alarming trend, or

an operation that just doesn't seem right? If so, say something! We can only solve problems we know about, so we all need to help identify and report safety risks. Doing so helps the system become safer.

At the recent GA summit in D.C., you mentioned the importance of safety culture. What are some specific things GA pilots can do to create a safety culture in their personal flying?

In aviation, continuous training and education is extremely important, especially in an industry that is constantly evolving. Learning should be continuous and none of us should think we know everything. It requires a personal investment to apply yourself to learning more. There is also a skills development piece to the puzzle — we have to continuously test ourselves to see if we are up to the task. We need to do everything we can to develop and hone our skills and maintain our "fitness" level with flying.

How can flight instructors and flight schools create and propagate a safety culture?

I think it is very important for flight schools and CFIs to model the behavior they want to see in their students. Students have to absorb a lot of information when learning to fly. During the learning process, instructors need to realize that students often pay more attention to what you do, rather than what you say. That's why it's so important to demonstrate the things you want them to retain and behaviors you want them to emulate. For example, cancelling a flight when the weather gets bad instead of pushing on will likely promote the same cautious approach when a student is faced with a similar situation.

For many of our readers, this article is their first chance to "meet" you in your role as FAA Administrator. What are your top priorities for your five-year term?

We are at a very interesting time in the history of aviation, with a confluence of events taking place. The NextGen system is huge. We are putting together new navigation procedures and accelerating technological innovations at a rapid pace. This is a good thing, but something we need to stay in front of.

Another priority is continuing our commitment to promoting a safety culture. Our approaches to safety have evolved over the years. Instead of a focus on forensics, we're on more of a risk-based assessments path, and we've become more invested in accident prevention than reaction and recovery. We're evolving away from an older way of doing business and moving forward with a different way of thinking — one that involves a greater shared responsibility with our stakeholders. The decisions that are being made now will help us to raise the bar on safety and shape aviation for decades to come. It's a very exciting and challenging opportunity to have.

We also have to realize we're in the midst of a generational transition. Many of those with great aviation knowledge and skill are set to retire. The influx we used to rely on from the military is drying up as their mission transitions to something different. There also aren't as many student pilots in the pipeline because the training costs can be quite high and because some believe an aviation career is not as rewarding as it once was. We need to leverage the knowledge of existing aviators but still create a forward-thinking environment that will attract the future aviators of the world.

Becoming a certificated pilot is something I have had an interest in from a very young age.

On a personal level, we know that your job is very challenging. What do you do to decompress and relax?

I love the mountains. I am an avid mountaineer and road biker. I just love spending vacation time with my family hiking, biking, and skiing in the Park City, Utah, area.

I am also heavily invested as a parent volunteer in my son's Boy Scout (Eagle) Troop. I'm looking forward to being a parent chaperone for an 81-mile hiking trip this summer with my son in his quest for an Eagle Scout badge.

Is there any question you wish we had asked you?

You didn't ask if I was a pilot. Okay, I'm not ... but becoming a certificated pilot is something I have had an interest in from a very young age. Right now it is just a question of finding the time. It is also something my son is very interested in so it might become a joint endeavor for us.

Tom Hoffmann is the managing editor of FAA Safety Briefing. *He is a commercial pilot and holds an A&P certificate. Contributing to this article was Sabrina Woods, assistant editor for* FAA Safety Briefing.

Learn More

FAA Bio on Michael P. Huerta
www.faa.gov/about/key_officials/huerta/

JAMES WILLIAMS

Not-So- Model Behavior

When "Rash" or "Brash" Leads to "Crash"

Photo by James Williams

"We were at the airport when this guy did a low pass over the hangar — nearly rattled the doors off!"

Sound familiar? You can of course substitute the word hangar in that sentence with a house, boat, or any other place, and it might still ring true. Sadly, a significant number of stories like these end in NTSB accident reports. As the oft-quoted Captain A.G. Lamplugh put it, "aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity, or neglect."

Although these words were first uttered in 1931, it seems that some pilots still try to test this principle for themselves. The ill-considered (not to mention ill-mannered) practice of "buzzing" is just one of the ways pilots not only create casualties, but also lower the community standards and certainly the public standing of our chosen avocation. As a pilot, even a student pilot, you are a member of an elite group with high standards. In aviation, violating these standards can be devastating, not only to the individual aviator, but also to families, friends, and innocent bystanders. And so, given the aviation citizenship focus in this issue of *FAA Safety Briefing*, I decided to take a closer look at some of the ways an aviator's decision to be rash could lead to a crash.

Altitude is your friend. If you are considering a flight that requires low-altitude operations, start by making an honest assessment of your ability to safely conduct that flight.

One of the biggest — and most avoidable — accident factors involves maneuvering flight. I took a tour of the accident database, looking at accidents in the 2007-2011 timeframe involving certain key factors: inappropriately low altitude, aerobatics, lack of preparation/poor preflight, and improper certificate issues. I also looked for incidents in which it appeared that the pilot was — no other words for it — showing off. Not surprisingly, the "show off" accidents generally involved some combination of low altitude and aerobatics. By the way, I took care to exclude any accident where mechanical issues or simple bad luck played a significant role. Also, I excluded operations like banner towing and agricultural application, where operating close to the surface is necessary for the job.

Overall, the search turned up 182 accidents. With 217 fatalities, nearly 63 percent of those involved were killed. Here's the breakdown. *(Note: the percentages exceed 100 due to the fact that more than one factor was often involved. This is the percentage of total accidents that included the cited factor.)*

Respect the Limits

Improper certificate or privileges and improper preflight or planning fall into the "duh" category. It's really simple: if you aren't rated for the aircraft or the flight conditions, don't do it. Even if the weather forecaster isn't saying what you'd like to hear, don't ignore it. Always do a thorough preflight, and never forget what your ground school and flight instructors told you about never putting your trust in the fuel gauges.

The bottom line is to know your limits, know the aircraft's limits, and respect both. Be ready (properly planned and preflighted) before you fly. In far too many cases, the pilot's intentional flight into challenging or deteriorating weather conditions ended with a controlled flight into terrain/object (CFIT). If you don't have an instrument rating, consider acquiring one. It will make you a better all-around aviator, and it will also help you obtain the knowledge and the skills to be a pilot in control as well as the pilot-in-command.

Putting on a Show

Most of us are rightfully proud of our abilities to pilot an aircraft of any size. But that doesn't mean that showing off is a good idea. Slightly more than 50 percent of the accidents in my review involved an element of showing off — either to people on the ground, or to people who were on board the aircraft. In fact, nearly 16 percent of the accidents I reviewed involved improper aerobatics. In most cases, it was as simple as buzzing a friend's house or the pilot's own home. Buzzing is never — *ever* — appropriate. 'Nuff said.

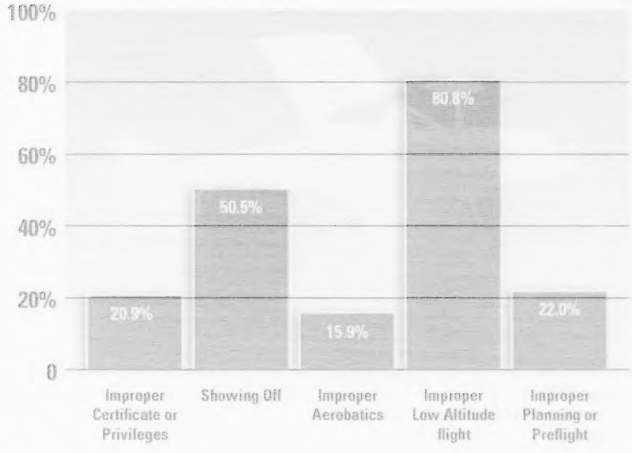
Please don't misunderstand, or think I believe that aerobatic flight is inherently dangerous. On the contrary, aerobatic training can be a powerful way to enhance your recognition of unusual attitudes and recovery techniques. But these skills must be properly acquired and safely practiced. If you want to learn aerobatics, hire an instructor who is well-qualified to provide this type of training. Check with friends, fellow pilots, and even social media to get recommendations. Although the aerobatic performers you see at airshows make it look easy, remember that they didn't start their aerobatic careers 25 feet off the deck. Neither should you.

Don't Do the Limbo

Low altitude operations limit a pilot's recovery options, and this factor has contributed to nearly 81 percent of all the reviewed accidents. It's easy to understand why. When operating close to the surface, there's rarely room for error.

Low altitude maneuvering is necessary at points during any flight, but we tend not to give it the respect it deserves. While skimming around at 100 feet off the surface may be legal — assuming you maintain safe distance from people and property and aren't in a densely populated area — it doesn't leave you much margin for safety. As you zip over hills and dales, all that stands between you and disaster is one tiny mistake — or even a sneeze that forces your eyes to close and possibly triggers involuntary hand movement. The professional and military crews who regularly conduct nap-of-the-earth flights are highly trained and highly competent. In addition, such pilots are constantly engaged in risk evaluation and mitigation, and they generally have sophisticated equipment and redundant systems to minimize the inherent risks.

The Five Key Factors



Altitude is your friend. If you are considering a flight that requires low-altitude operations (e.g., aerial photography), start by making an honest assessment of your ability to safely conduct that flight. If you conclude that you have the training, the experience, and the proficiency, you also need to develop a solid plan. How low will you go (personal minimums)? What are the terrain and obstacle considerations you need to accommodate? Will you be tempted — by "mission requirements" or by a passenger — to go lower? If you can't resist the pressure or the temptation to fly below your comfort level, say no and don't go.

The bottom line is to know your limits, know the aircraft's limits, and respect both.

The bottom line: know your limits, know the airplane's limits, get proper training, and don't put yourself into "no way out" situations. And, most of all, remember that if you shun attitudes and behavior that could be called "brash" or "rash," you are very likely to avoid finding yourself in a "what-was-that-pilot-thinking" kind of crash.

James Williams is FAA Safety Briefing's associate editor and photo editor. He is also a pilot and ground instructor.

EUGENE A. CERNAN

It *Can* Happen to You

A Runway Incursion Confession

My story focuses on an unintentional entry onto an active runway at a towered airport, thus violating one of the fundamental responsibilities of a pilot-in-command of an aircraft. It shows once again that we aviators are not infallible. Anyone can make a mistake when not giving full attention to the dynamics of the moment, and no one can afford to allow complacency and impatience to take over.

I consider myself to be an experienced aviator: 22 years in the Navy, 9,000-plus hours accumulated in both military and civilian aircraft, most of which were high-performance flying machines. I've made more than 200 carrier landings, and three space flights — two of which took me to the moon. All that ... and yet I violated a cardinal rule by entering an active runway without clearance. My incident should be a wake-up call for everyone, starting with myself. The message is that no matter who we are, where we have been, how many hours or landings we may have, or how good we may think we are, we all are prone to the inevitability of making a mistake — in retrospect, of doing something dumb. I am better than that. *You* are better than that. But if it can happen to me — IT CAN HAPPEN TO YOU.

My purpose in sharing my aviation history is not to impress anyone, but to remind us all that when we are the pilot-in-command of an aircraft, whether in the air or on the ground, being merely "good" is not good enough. My goal is also to remind my fellow aviators that none of us, notwithstanding our experience, is bulletproof when it comes to making a mistake. Mistakes come in all shapes and sizes. Some result in little more than embarrassment. Others can result in catastrophe.

In my case, fortunately, the result was not an incident or an accident or a catastrophe. But it was a taxi violation arising from my inadvertent entry onto the active runway without tower clearance. Extenuating circumstances in no way excuse my actions. Anyone who crawls into the cockpit of an aircraft is from that point on responsible for the safe movement of that aircraft in the air or on the ground. Preoccupation or multi-tasking when in control of a moving aircraft can, and often does, lead to unplanned negative consequences.

Photo by Mike Fizer (all rights reserved)

The Crime

The scene of the crime was the Sugarland Regional Airport (KSGR) in Houston, Texas. It was one of those mornings when the weather was clear and ten. Up until a few years ago, KSGR had been home to my Cessna 421 *Golden Eagle*, so I was definitely familiar with my surroundings. The plan that morning was to ferry my aircraft to its current home base — Houston Executive Airport (KTME), which is about ten miles away. My Cessna had been down for three weeks for a glass panel upgrade, plus some additional avionics upgrades and maintenance. As a result, neither my aircraft nor I had flown during the maintenance time.

When I started the engines, I immediately noticed that the right manifold pressure needle remained static at ambient pressure, while the left operated normally. Having had a similar problem in the past, I suspected a faulty gauge but continued with my troubleshooting. Rather than focus on that task, though, I pressed on with the start checklist, which included bringing up the avionics. After listening to the AWOS, I called ground control for taxi, while monitoring the tower frequency as well. The ground controller replied, but, being somewhat fixated on my new glass instruments and still somewhat concerned about the restless manifold pressure on the right engine, I do not specifically recall the clearance. Most likely, I was instructed to "taxi — hold short of Runway 17/35."

A word about the runway configuration: KSGR and KTME each have but one north/south runway. However, KSGR's parallel taxiway is on the east side. The parallel taxiway at KTME is on the west ... and the avionics shop at KSGR is on the west side! The active runway was 17. I'm sure most can see what is coming.

Being preoccupied with my new glass cockpit, still troubleshooting the right engine, and also alert for other possible anomalies, I commenced my taxi. I knew ground control had replied to my taxi request. Somehow, though, I had my home airport — the non-towered KTME — in my mind. On reaching Runway 17, I started a left turn (north) on what would have been my north/south taxiway at Houston Executive ... only it wasn't. At that moment I found myself square in the middle of Runway 17/35. I recognized this error almost immediately and continued my left turn to exit on the same taxiway I had used to enter. Right about then, I received a caustic call from the tower reinforcing the fact that I was now where I never intended to be. The time I spent on the active runway was probably less than twenty seconds. But that would have been more than enough time to result in an accident had an aircraft been in takeoff roll or landing on Runway 17.

The Cause

The cause? Try "causes." They are a legion: preoccupation, multi-tasking, trying to do too many things, not confirming taxi clearance, lack of situational awareness, and anxiety about getting my airplane home after a long downtime.

Once I was back on the taxiway in re-group mode, the tower informed me of the possible violation and asked me to contact the tower after my arrival at KTME. The flight to KTME proceeded without further complications, and of course I complied with the request to call the tower after I landed.

Although my violation did not contribute to an accident or incident, it could have. History has shown that active runway incursions and taxi accidents can lead to fatalities. Ground operations require as much situational awareness as time in the air. Events like mine can, and should, be avoided.

In our aviation world, the word "professionalism" takes on its own meaning. It demands that we understand what it requires to be an aviator, not just a pilot. I pride myself on being both. But, if it can happen to me, it can happen to you as well. Please learn from my mistake, and keep your focus at all times where it should rightfully be.

Eugene A. Cernan is a retired U.S. Navy captain with more than 9,000 hours logged in both military and civilian aircraft. He is most noted for having made three space flights — two to the moon — and earned the distinction of being the last man on the moon.

SABRINA WOODS

See, What Happened Was ...

"See, what happened was ..." is the often dubious start to an attempt to explain an event (usually negative) that has occurred. I'm sure we have all heard it in one form or another: in the workplace or in our day-to-day lives from a spouse, a child, a coworker, or an employee. Once, as an aviation maintenance manager, I was approached by a technician who intended to tell me how, exactly, a usually straightforward gear swing had caused several thousand dollars' worth of damage to the aircraft.

"See, what happened was ...," he stammered to a start. I just sighed, waiting for the "story" to unfold. I knew what was coming — the fight to project, reject, and deflect in a desperate attempt to explain away the incident. By "project," I mean to maintain an air of innocence, or even ignorance. By "reject," I mean to deny one's own responsibility or accountability in the situation, and by "deflect," I mean to pass off guilt to anyone (or anything) else that is feasible. In short, the technician was about to display attributes totally contrary to good maintenance citizenship, and I was going to have to spend quality time (better suited elsewhere) trying to figure out what really happened and how to fix it. It didn't make him a bad person *per se*; just that maybe he needed a quick refresher on what good maintenance practices are and what being a good maintenance citizen means.

This edition of *FAA Safety Briefing* is about citizenship, and that concept doesn't just end with the aviators. It incorporates everyone who moves within, operates, supports, and directs the national airspace system (NAS). A healthy system requires every individual within it to help identify and mitigate risks, be accountable for their actions, look out for fellow operators/maintainers/controllers, and take ownership when mistakes are made. Even if that latter part can be an understandably uncomfortable endeavor.

Model Citizen

Just a few months ago a routine photography trip via helicopter made the news when the rotorcraft lost power, dropped from the sky, and careened down a busy Honolulu street before crash-landing on top of an unoccupied car. Thankfully no one on the ground was hurt and both the pilot and passenger walked away with only minor injuries; however, what was really remarkable (superb piloting notwithstanding) was that shortly after the incident, the head of the company contracted to maintain the rotorcraft immediately took full ownership for its inability to remain aloft. And he wasn't even the last technician to look at it. He then went on to explain that while he did not do the work on this particular helicopter, it is ultimately his responsibility to "check everything."

It was a bold, brave move for the company leader, but what is even more important is that this simple act paved the way for the focus to remain on what really went wrong with the helicopter and to begin the process of analysis and resolution. With those simple words the manager evoked a sense of credibility and responsibility and a belief that he would get to the bottom of the issue and prevent it from happening again.

As a member of the NAS, I was relieved to hear it. I have every confidence that this aviation maintenance technician adheres to a code of conduct that is built on the principles of safety, risk management, and compliance, and will stand by his word. The knowledge that your work is reliable, sound, and safe is something every good maintenance citizen should fight to protect. If he had chosen to take a different tact and started out with "see, what happened was ..." and then gone on to make excuses and disavow his company's role in the mishap, I would have been less inclined to believe that this incident, or one similar, wouldn't repeat itself. It all starts with accountability.

Good maintenance citizenship requires us to approach each task with an uncompromising, safety-conscious attitude recognizing that the lives and well-being of others depend on our actions. It demands that we exercise morally- and ethically-sound judgment. It encourages continuous training, self-regulation, and professionalism. It thrives on effective communication and cross-tell. This is all supported by a foundation of accountability and responsibility. With that comes the understanding that sometimes you might have to admit "yeah, I could have messed this up." Once you acknowledge that, you can move on to find the true fix to a problem. It may involve a series of small changes — more training, better equipment, workplace environment tweaks — or just one big change. Regardless, it all starts with the willingness to own up to the problem, no "stories" necessary.

Sabrina Woods is an assistant editor for FAA Safety Briefing.

TOM HOFFMANN

We Are Fam-i-ly

Are All My Fellow Pilots with Me?

Who pops in your mind when you think of the word family — your mom, your pesky little brother, or how about kooky Aunt Carol? However you slice it, family is family; they're the people we count on, time after time, despite all the differences, challenges, and idiosyncrasies that shape our individual worlds.

There's probably no song that epitomizes the strength of this unique bond better than Sister Sledge's classic hit, "We Are Family." The song became a pop culture sensation and was long considered an anthem of unity and camaraderie that pushed the notion of family beyond the level of blood relatives. Just look at how it affected the Pittsburgh Pirates baseball team. Soon after the song came out in 1979, the team used it as their theme song, and that same year they went on to win the World Series!

As you can see, family runs deeper than sisters, brothers, and parents. It's also your neighbors, coworkers, friends, and yes, your fellow pilots. The general aviation community is a family — okay, maybe dysfunctional at times, but nonetheless, family. And as members of that family, we have a responsibility to look out for one another, to back each other up, and to motivate each other to be safe and successful.

Think about your hangar-mates or your fellow instructors at a flight school. Are you leveraging all the opportunities to share your knowledge about something you think might be helpful, or to perhaps warn them of an unrealized danger? Maybe you got word about some recent pilot reports on turbulence, or experienced a tricky crosswind just before a fellow pilot is about to depart in those same conditions. Go ahead and share that information, even if it's with someone you've never met before. That person could be new or unfamiliar with that area and may be especially appreciative of some helpful local insight.

Just like with relatives, there are times fellow pilots will disagree with you, baffle you, or just flat out annoy the heck out of you. But, no matter how they might get under your skin, it's important to take these challenges in stride and not lose sight of the fact that they are still family and that you still care for their well-being.

The recent GA accident rate is a good reason to take this to heart. This year has been particularly tough with 192 accidents and 331 fatalities occurring from October 2012 to June 2013. June alone accounted for 25 accidents and 47 fatalities. When there is a fatal GA accident, it should resonate as more than just another number on a chart. Whether you knew that pilot or not, you are losing a member of your family.

Instead of thinking there's nothing you could have done to prevent that accident, challenge yourself to be more active and engaged with your fellow aviators. Call someone out when you see something that seems unsafe, just like you would with your own immediate family members. You may find that the advice is not always welcome, but at least it may help give pause to what that aviator is about to do (or not do). Personally, I'd rather a loved one be upset with me than to see them wander off into an unsafe, or even deadly, situation.

As always, tact is also important in these situations. Being kind, courteous, and professional in your discussions will greatly improve your chances of having your message conveyed properly.

In closing, I leave you with the opening verse from "We Are Family," which I think effectively captures the unique bond that we, as flight-minded citizens in the GA family, share:

Ev'ryone can see we're together
As we walk on by
(FLY!) and we fly just like birds of a feather
I won't tell no lie
(ALL!) all of the people around us they say
Can they be that close
Just let me state for the record
We're giving love in a family dose.
We are family ... !

Tom Hoffmann is the managing editor of the FAA Safety Briefing. *He is a commercial pilot and holds an A&P certificate.*

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Moral Courage

Cold, windy, rugged, and incessantly pounded by the sea, Alaska's Kodiak Island is just one of the areas patrolled by the United States Coast Guard. Conditions were just as described on December 28, 2012, when Coast Guard commanders got the call that an icebreaker chartered by Royal Dutch Shell, MV *Aiviq*, had lost all engine power and was unable to control its tow lines with the floating, oil-drilling platform *Kulluk*. The 18-man crew aboard *Kulluk* had radioed the Coast Guard Air Station, pleading for a helicopter rescue because *Aiviq's* crew had no means to rescue the stranded workers.

Strike One

Taking off in their MH-60T *Jayhawk* helicopter, Coast Guard Lieutenant Adam Spencer and his aircrew were the first would-be rescuers to respond to the distress call. They knew from the snow squalls and turbulence during the one-hour flight to the scene that any rescue would be challenging.

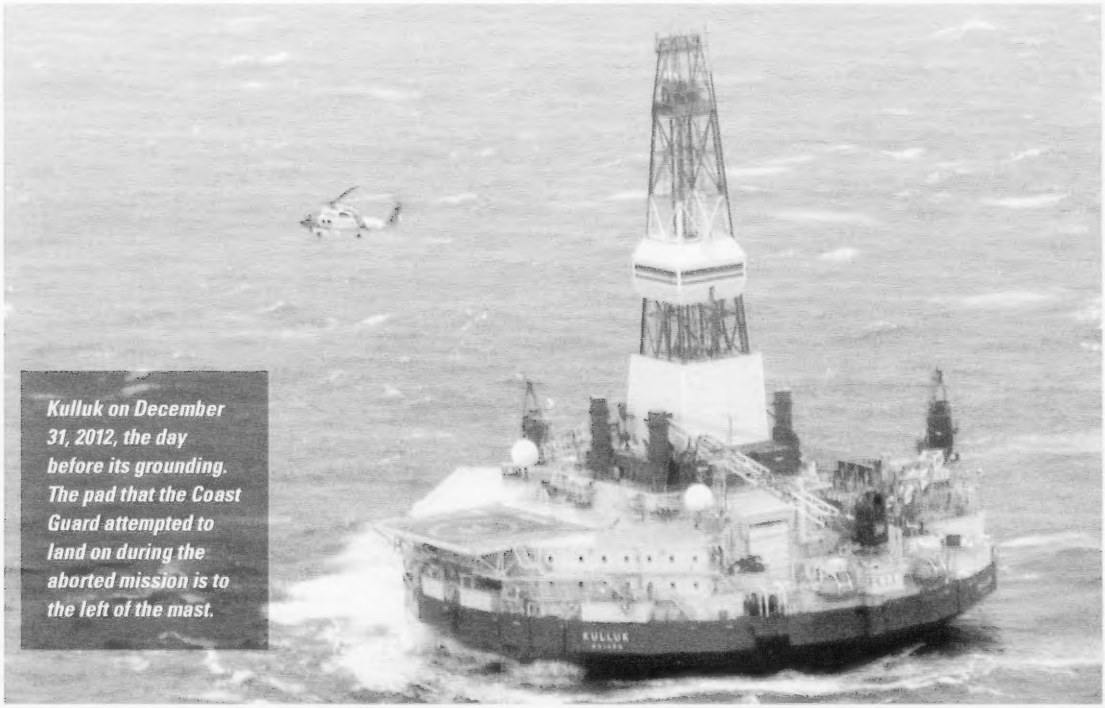
When they reached their destination, about 85 miles from their base and 40 miles from the nearest land, they were met by 30-foot swells, a 300-foot ceiling, and less than a quarter mile of visibility. The seas were so rough that waves were inundating the helicopter landing pad that in normal conditions is 60 feet above the waterline. Compounding the challenge was the fact that the drilling rig's 160-foot mast was swaying violently because of the waves. Gusts had created crosswinds as high as 45 knots beyond maximum landing allowances. In addition, cranes, piping, and rigging covered the platform everywhere beyond the landing pad.

After surveying the situation, Spencer and his crew determined that not only was landing on the *Kulluk* impossible under the current conditions, but hoisting people from the platform was too dangerous as well.

Strike Two

Taking off an hour after the first helicopter had departed Kodiak, Lieutenant Commander Thomas Combs and his crew arrived on the scene in separate rotorcraft. They were briefed on the situation and assumed command as Spencer and his crew returned to Kodiak.

For the next hour, Combs and his crew monitored the situation and hoped for a break in the



***Kulluk* on December 31, 2012, the day before its grounding. The pad that the Coast Guard attempted to land on during the aborted mission is to the left of the mast.**

Photo courtesy of U.S. Coast Guard

weather. It never came. Eventually, Combs realized that a rescue was impossible. He made the difficult decision to abandon the attempt, realizing that he was leaving 18 men to the mercy of the sea. Combs also knew that *Aiviq* would likely have to cut the tow lines, and *Kulluk*, loaded with 150,000 gallons of oil and diesel fuel, could run aground and break up on the rocky coast of Kodiak Island.

Home Run

This situation marked the first time Combs and Spencer could not complete a rescue during a search-and-rescue mission. However, once back at Kodiak Island for refueling, the Coast Guard crews considered the possibility of helping to fix the tow ship's engines. After receiving an exact description of the mechanical problem, the crews loaded parts for the repair of *Aiviq's* propulsion system. Departing Kodiak at 3:30 a.m. the next morning, they executed the new plan to lower parts to *Aiviq's* flight deck. The successful delivery of parts to the tow ship allowed *Aiviq's* crew to restart the vessel's engines and re-establish control of the rig long enough for the crew of *Kulluk* to be rescued once conditions had improved.

For their actions in recognizing the reality of the situation and not recklessly risking their aircraft and crews with a hoist rescue attempt, the U.S. Transportation Safety Institute, Embry-Riddle Aeronautical University, and the Helicopter Association International (HAI) Safety Committee presented the *Jayhawk* commanders a Moral Courage Safety Award during a ceremony at Heli-Expo. The Moral Courage Safety Award recognizes crew members and organizations who make difficult decisions that ensure safety and promote a positive safety culture. In the Kodiak Island situation, Combs noted that "the risk of conducting a hoist rescue would have exceeded the risk to the crew remaining on board."

To nominate someone for the Moral Courage Safety Award, call 405-954-2913 or email d.smith@dot.gov.

TSI's D. Smith said the Coast Guard's actions set an important example. "Recognizing the aircrews and leadership of Air Station Kodiak sends a message that employing sound risk management principles saves lives and ensures continued mission accomplishment."

Rory L. Rieger is an aerospace engineer for the Rotorcraft Directorate. He has served as a fixed- and rotary-wing pilot for the U.S. Navy and Navy Reserve for 28 years. His career has included duty in more than 20 combat operations.

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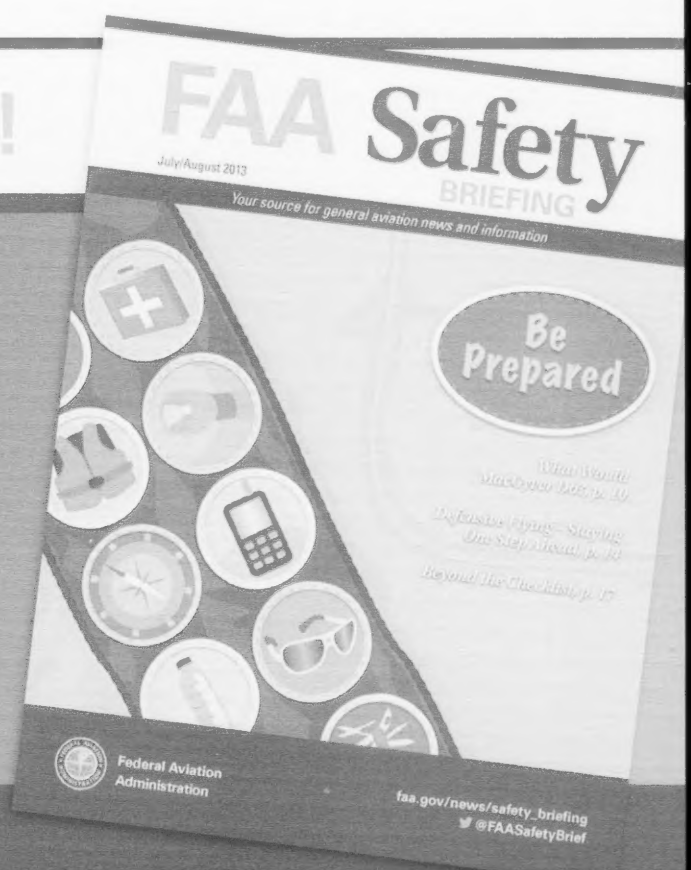
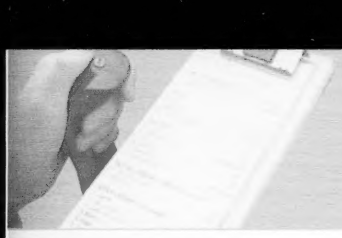




Checklist

SUSAN PARSON

The Citizenship Test

For those who were not born in this country, the process of acquiring U.S. citizenship includes an English language component as well as a civics knowledge test. The naturalization interview includes up to ten questions from a bank of 100 potential questions. The point is to ensure that anyone seeking the rights and privileges of citizenship meets a baseline standard of knowledge about U.S. history, culture, geography, and values. (*I wonder how many of us native-born citizens could pass? Check out the self-test at www.uscis.gov.*)

Acquiring Aviation Citizenship

Since none of us are native-born to the aviation community, everyone who seeks to acquire aviation citizenship must pass a set of tests. As with the rationale for the U.S. citizenship civics test, the knowledge test component of the airman certification process is meant to ensure that all aviation citizens meet the standard of aeronautical knowledge for the level of pilot (or instructor) certificate or rating they seek to obtain. American history and geography don't change much, so questions for the U.S. citizenship civics test can be fairly static. In aviation, on the other hand, the only thing constant is change itself, and so the knowledge test component of the FAA's airman certification process needs to keep pace. It's no secret that many stakeholders — applicants, instructors, training providers, and even evaluators — do not believe the current FAA knowledge test passes muster.

Fixing the Citizenship Test

As previously reported, in late 2011 the FAA chartered an Aviation Rulemaking Committee (ARC) to seek expert stakeholder assistance to address these issues. Although the ARC's initial focus was on the tests, this industry group quickly realized that it is not possible to fix knowledge tests in an effective and sustainable manner without first addressing several underlying systemic issues. One such issue is the lack of a clearly defined knowledge test standard. Flight proficiency skills for each certificate and rating are enumerated in 14 CFR part 61. The FAA developed the Practical Test Standards (PTS) to define metrics for acceptable performance of these skills. While 14 CFR part 61 also lists the broad areas of knowledge an airman must master in order to earn certification, the lack of a knowledge test standard corresponding to the PTS gives rise to several problems:

- overly broad, outdated, and sometimes irrelevant knowledge test questions;
- inadequate calibration of knowledge test questions to the certificate or rating level;
- lack of a framework to evaluate, incorporate, and manage changes deemed critical to safety; and
- insufficient post-test feedback to stakeholders.

In the view of the ARC members, the lack of a knowledge test standard has reduced the potential aviation safety and training value of the FAA knowledge test. The ARC briefly considered proposing a "Knowledge Test Standards" (KTS) document that would serve as the knowledge test companion to the skill-focused PTS.

The ARC ultimately concluded that aviation safety and stakeholder needs, including the core desire for a more relevant FAA knowledge test, would be best served by integrating task-specific aeronautical knowledge into the appropriate area of operation in the existing PTS, and by adding task-appropriate risk management elements for each area of operation. The ARC thus proposed the creation of an Airman Certification Standards (ACS) document.

In August 2012, the FAA assigned this task to the Aviation Rulemaking Advisory Committee (ARAC), a formal standing committee comprised of representatives from aviation associations and industry. The ARAC in turn established an industry-led and industry-composed Airman Testing Standards and Training Working Group (ATST WG), which has spent the last year developing proposed ACS documents for the private pilot and instructor certificates and the instrument rating. During the course of its work, the ATST WG requested public comment on several draft documents, and it used those comments to refine the documents and recommendations.

Much work lies ahead for both the FAA and industry, but this effort clearly lays the foundation for fixing the "aviation citizenship test." Remain on this frequency for further advisories.

Susan Parson (susan.parson@faa.gov, or @avi8rix for Twitter fans) is editor of FAA Safety Briefing. *She is an active general aviation pilot and flight instructor.*

Flight Forum

Not-so Green

I am writing to address what has become a continuing personal irritation over the somewhat shortsighted assessments of electric power resulting in "nearly zero emissions" as indicated in in the May/June environmental issues edition of *FAA Safety Briefing*.

While it may be correct that a solar-powered electric motor may be producing power for flight with very few emissions, it is incorrect for other electric power sources available on the aircraft. People seem to forget that at any time an electric system is powered by a battery that has been recharged by plugging it into an electrical outlet (or through the use of power from a hybrid energy source), there were most likely very large amounts of emissions generated while producing the electricity used to charge that battery.

— Mike

You are absolutely correct in pointing out that there are emissions created and energy expended when charging (as well as producing) the batteries and/or power sources for an electric-powered aircraft. Our intention was to highlight the operational emissions of the aircraft, to not only consider the "big picture" on the environmental efficiency of new propulsion systems, but also to appreciate the overall positive impact (lower noise, maintenance, smooth performance, simple operation, etc.) that together give a much higher benefit than existing technology.

Avgas STC

Thanks for your informative article on the avgas initiative. Many older planes already have a solution: a mogas STC. If 87 octane automotive gas — without ethanol — were available to us, our aircraft would be just as happy and our fuel would have 75 percent less lead in it. Why can't we just offer 87-mogas to aircraft like it is offered to many boats? It seems to be the easiest and least expensive solution for a large number of piston GA aircraft.

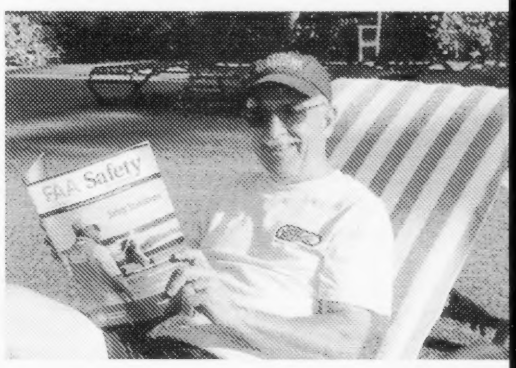
— Classic Cessna

It is true that there are a number of older planes that are allowed to use automotive gas, or "mogas" through the use of an STC. Should someone wish to expand the existing STCs or obtain an additional STC for the use of mogas on additional aircraft, the FAA certainly would support that. There are a few problems with this solution, however, since there are very few locations that offer ethanol-free mogas (a requirement for the use of the STCs) and our best estimates tell us this would support only about half of the fleet of general aviation aircraft.

We believe the testing program recommended by the Aviation Rulemaking Committee, while taking longer to complete, will result in a solution that can be embraced by the entire community and in the end allow us to remove lead from all aviation gasolines. Thank you for your interest in our efforts.

Easy Reading

Attached is a photo of my brother, a Cessna 172 owner/pilot from Pittsburgh, Pa. His wife snapped this photo of him reading *FAA Safety Briefing* during their vacation to Hawaii in April 2013. I thought you might appreciate how much he enjoys your publication. Keep up the great work!



— Jack

Looking good! Thanks for reading and for the kind words.

FAA Safety Briefing welcomes comments. We may edit letters for style and/or length. If we have more than one letter on a topic, we will select a representative letter to publish. Because of publishing schedule, responses may not appear for several issues. While we do not print anonymous letters, we will withhold names or send personal replies upon request. If you have a concern with an immediate FAA operational issue, contact your local Flight Standards District Office or air traffic facility. Send letters to: Editor, *FAA Safety Briefing*, AFS-805, 800 Independence Avenue, SW, Washington, DC 20591, or email SafetyBriefing@faa.gov.

Let us hear from you — comments, suggestions, and questions: email SafetyBriefing@faa.gov or use a smartphone QR reader to go "VFR-direct" to our mailbox.

SUSAN PARSON

Flight of a Black Swan

Airmanship (Still) Trumps Automation

Over the summer, I had the honor and privilege of accepting the Flight Safety Foundation's Cecil A. Brownlow Award for "significant contributions to aviation safety awareness" on behalf of the entire *FAA Safety Briefing* team (*see the July/August 2013 issue's ATIS department for details*). I was delighted to find that one of my table companions at the aerospace media awards dinner was Captain Richard de Crespigny, captain of Qantas flight QF32 and author of the newly-published eponymous book about the Airbus A380 flight that made headlines back in November 2010.

If you don't immediately recall the incident, QF32 sustained a catastrophic (and I do mean catastrophic) uncontained engine failure shortly after departing Singapore's Changi International Airport. Shrapnel from the injured engine tore through many parts of the aircraft, damaging or destroying multiple systems. The book is de Crespigny's riveting account of how he and his crew — both technical crew and cabin crew — coped with yet another of those highly improbable, can't-possibly-happen, "black swan" events that no crew could realistically train to handle.

Having learned that he would be the dinner speaker, I downloaded *QF32* to my magical iPad mini and read it start to finish on the flight transporting me to the event. It is a gripping read, and de Crespigny's post-dinner presentation was even more enthralling. As with so many events that come out well, the headlines fade and we all forget — if we ever realized to begin with — how easily there could have been a less happy ending. Many of us may also fail to appreciate how much we benefit from the long accumulation of technology and training improvements that have too often resulted from the many unhappy endings in aviation history. Fittingly, one of the key points threaded through de Crespigny's presentation was his own recognition of how much he, the crew, and of course the passengers of QF32 owe to the sturdiness and resilience of the aircraft, as well as to the extensive experience, rigorous training, and unwavering discipline of the crew.

When it comes to the black swan events like the cascade of "can't possibly happen" failures on QF32, the human knowledge, experience, training, and skill that collectively comprise airmanship make all the difference between success and failure.

Airmanship and Citizenship

In that connection, there was a very interesting pre-dinner conversation about the proliferation and potential of unmanned aerial systems (UAS) to do everything from pizza delivery (remember the summer's "DomiCopter" experiment?) to piloting aircraft on transoceanic routes. As was very clear in de Crespigny's QF32 experience, drones might do just fine as long as everything goes according to plan, and they might even do a creditable job when the failures that occur fall into the range of faults that systems designers can anticipate. But when it comes to the black swan events like the cascade of can't-possibly-happen failures on QF32, the human knowledge, experience, training, and skill that collectively comprise airmanship make all the difference between success and failure. As de Crespigny observed, there were so many failures and levels of failure that the battered airplane was simply overwhelmed. It took every bit of the crew members' collective expertise to sort, prioritize, and decide when to ignore the befuddled automation's stream of ever-shifting instructions. Clearly, the QF32 crew's performance was a bravura example of the professionalism and airmanship every aviation citizen should aspire to emulate.

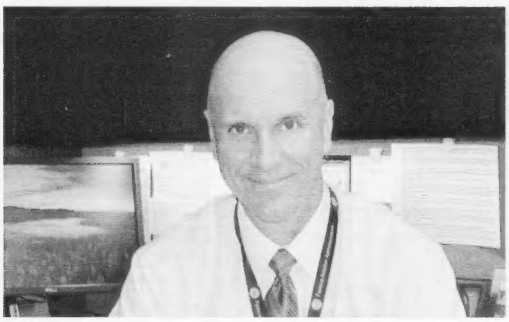
Speaking of aviation citizenship: as I mentally replayed some of these points and discussions on the return flight, I marveled at the way that aviation citizenship is a privilege that transcends the more conventional boundaries of nationality, language, culture, and customs. Captain de Crespigny's audience that night was truly a multinational and multilingual mix, but we were all aviation citizens, with all the shared values, customs, vocabulary, and culture that make us a discrete community. Like everyone else who attended, I left that dinner with a renewed sense of pride in belonging to the family of aviation citizens and determination to be worthy of this amazing privilege.

Susan Parson (susan.parson@faa.gov, or @avi8rix for Twitter fans) is editor of FAA Safety Briefing. *She is an active general aviation pilot and flight instructor.*

MEGAN KUHN

FAA Faces Lou Volchansky

General Aviation's Inside Man



FAA's Lou Volchansky has climbed into the cockpits of general aviation, transport aircraft and military jets, but climbing a ladder to the roof of his home? Nope. The assistant manager of the Avionics Systems Branch doesn't like heights.

"I don't like being on a ladder," says the retired U.S. Air Force pilot. "That's not for me."

Fear of ladders notwithstanding, Volchansky actively pursues his passion for aviation and uses his experience of more than 3,400 hours of flying to guide his work. He flies a Cessna 182 every month for the Civil Air Patrol (CAP), the auxiliary of the U.S. Air Force.

Volchansky's interest in aviation dates to childhood. He dreamed of becoming an Air Force pilot, and joined CAP's cadet program at 14. Yard work and dishwashing earned a teenaged Volchansky enough to pay for flight lessons in a Cessna 150. He earned his private pilot's license at 17. An ROTC scholarship took him to the University of Virginia, where he studied aerospace engineering. He then served 20 years in the Air Force, flying Boeing KC-135 Stratotankers, Boeing 707s, and Bombardier Lear 35 aircraft.

In his final job with the Air Force, Volchansky wrote navigation policy. He drafted criteria for flight procedures and for the integration of navigation systems in all Air Force aircraft to meet civil airspace performance requirements. The retired lieutenant colonel joined the FAA in October 2002 — it was a smooth career transition. "Basically the same job, the same people, different uniform," he says.

At the FAA, Volchansky helps formulate policy for the FAA's Aircraft Certification Service. He also communicates the impact of the FAA's airspace modernization effort on GA. He led the publication of this year's Aviation Safety Work Plan for NextGen and contributed to the latest edition of the NextGen Implementation Plan. Volchansky outlined how operators can take advantage of NextGen capabilities by investing in specific equipment.

Volchansky believes he has to place himself in the cockpit when writing policy. He asks himself questions such as: How would pilots use avionics in less than ideal conditions? What safety features should be considered for these situations?

Lately he's considering the effect of portable tablets in the cockpit. As a tablet owner himself, Volchansky prefers it to paper charts because of its clarity and the ease of switching between approach procedures. Although, he still carries a paper back-up.

Other uses of portable devices are still in the works, he said. For instance, an $800 to $1,000 receiver can be used with a tablet to display Automatic Dependent Surveillance-Broadcast (ADS-B) information. However, the device has not been formally tested and does not comply with the FAA mandate that aircraft flying in most controlled airspace be equipped with ADS-B Out by January 1, 2020.

"I can bring a lot of new portable technology into the cockpit, but you have to understand the limitations of the equipment," Volchansky says.

Off the clock, Volchansky volunteers for the FAA Safety Team, which seeks to improve aviation safety through pilot training, outreach, and education. He briefs Washington, D.C.-area pilots about GPS procedures and avionics topics.

He reacquainted himself with CAP in 2007, and volunteers at least 16 hours each month as a safety officer with the Mt. Vernon Composite Squadron. He also averages four hours per month in the cockpit of a Cessna 182 practicing for normal and emergency operations.

"He's one of our favorite people. The kind of guy you want to fly with," says Col. Bruce Heinlein, commander of CAP's National Capital Wing. "You are always assured that steps aren't missed and that everything will always have a favorable outcome."

As long as the mission doesn't involve climbing ladders.

Megan Kuhn is a technical writing contractor with Beacon Management Group. She supports the NextGen Performance & Outreach office.

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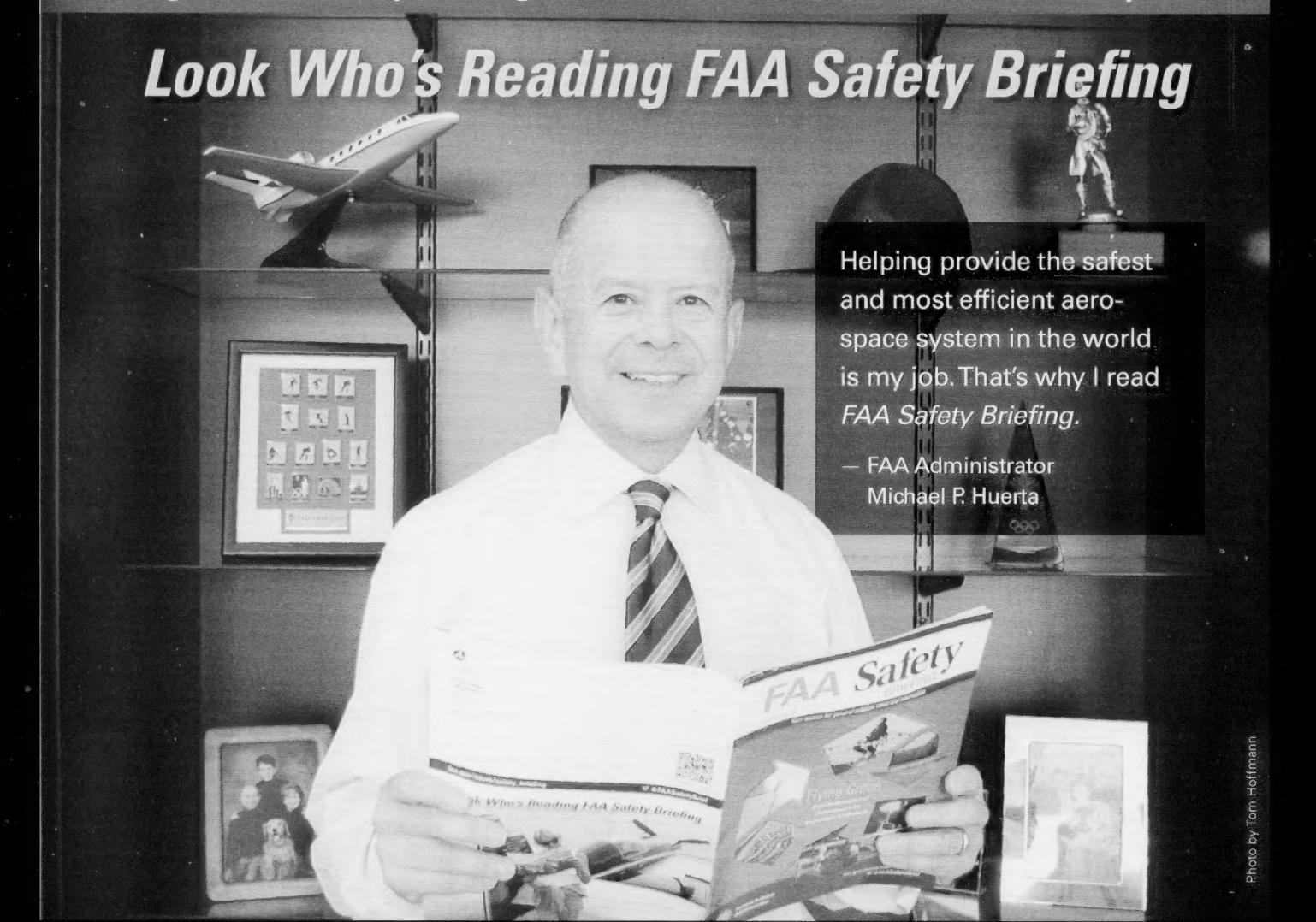

Helping provide the safest and most efficient aerospace system in the world is my job. That's why I read *FAA Safety Briefing.*

— FAA Administrator
Michael P. Huerta

Photo by Tom Hoffmann